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ABSTRACT

Professional development is the central focus of the collection of five papers included in this monograph. Casting views in the framework of "advocacy," each paper addresses one of the following topics which are of central interest in the field of vocational education: accountability, work experience, assessment, career clusters, and postsecondary expansion. Each of the papers is co-authored, and in each case one of the authors engages his interest from within an academic institution and the other from within a state education agency in order to produce a synthesis of views. The papers begin with brief abstracts containing the main elements and then present thorough elaborations of the arguments sustaining the advocacy. Titles of the papers and their respective co-authors follow: "Accountability as a Part of Professional Development: Vocational-Career Education" by Leon Lessinger and Francis Tuttle; "Work Experience for the Professional Development of Vocational Teachers" by Lloyd Wiggins and Ben Carmichael; "The Assessment of Post-Graduate Professional Development for Vocational Educators" by Joseph Nerden and Paul Schalles; "Staff Professional Development: Expansion of Clusters" by John Rowlett and R.D. Balthaser; and "Post-Secondary Expansion as a Part of Professional Development" by Richard Whinfield and Melvin Johnson. (BM)

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ADVOCACY ON ISSUES

Accountability
Work Experience
Assessment
Career Clusters
Post-Secondary Expansion

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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FORWARD:

Opening and sustaining a discourse for informing professional development is the central focus of the collection of papers in this monograph. Invited to cast their views in the framework of "advocacy," the authors have addressed themselves to specific topics which are of central interest in the field of vocational education. The invitations were given on the premise that an opportunity for readers to read and react to advocacy is provocative, stimulating, and instructive.

The authors have special interest and experience in the topics which they have addressed. Each of the papers is co-authored. In each case one of the co-authors engages his interest from within an academic institution and the other from within a state education agency. The two points of vantage are not intended to produce a compromise, but, rather, a synthesis of views.

The monograph was initiated under the aegis of the National Resource Panel identified with the Fellowship Program of Educational Professional Development in Vocational Education. The Panel does not necessarily endorse the advocated positions taken by authors of papers in the collection. It endorses, however, the unique scope of opportunity afforded to readers through an examination of thoughtful and penetrating positions of advocacy.

Each paper begins with a brief abstract containing the main elements in its thrust. This is followed by a thorough elaboration of the arguments sustaining the advocacy.

The monograph is intended to be of particular interest to students and to others interested in professional development.

Gordon I. Swanson

CONTENTS

FORWARD.....	iii
ACCOUNTABILITY	
Accountability as a Part of Professional Development: Vocational-Career Education by Leon Lessinger and Francis Tuttle.....	1
WORK EXPERIENCE	
Work Experience for the Professional Development of Vocational Teachers by Lloyd L. Wiggins and Ben E. Carmichael.....	21
ASSESSMENT	
The Assessment of Post-Graduate Professional Development for Vocational Educators by Joseph T. Nerden and Paul H. Schalles.....	41
CAREER CLUSTERS	
Staff Professional Development: Expansion of Clusters by John D. Rowlett and R. D. Balthaser.....	69
POST-SECONDARY EXPANSION	
Post-Secondary Expansion as a Part of Professional Development by Richard W. Whinfield and Melvin E. Johnson.....	95
ADVOCACY AUTHORS.....	117

ACCOUNTABILITY

**Accountability as a Part of Professional
Development: Vocational-Career Education**

by Leon Lessinger
and
Francis Tuttle

ABSTRACT

ACCOUNTABILITY AS A PART OF PROFESSIONAL DEVELOPMENT: VOCATIONAL-CAREER EDUCATION

The United States Congress set the stage for accountability in vocational education in the "Declaration of Purpose" Section 101 of the Vocational Education Amendments of 1968.

Accountability is a particular kind of responsibility -- one in which the focus of the responsibility is known and a consequence is assigned. It is found in all enterprises and in the schools.

There has been marked confusion between the means for achieving accountability and the concept itself. Accountability is not performance contracting, or system analysis or PPBES. It is not limited to teachers or board members or students. It is not a measurement phenomenon centered on standardized testing. It does not require blaming or firing teachers and it is not by nature either humanizing or dehumanizing.

The most useful model of accountability for the professional worker in education is found in medicine. The physician is not responsible for an individual's progress or death. He is responsible for knowing and using good practice--those accepted, verified practices and techniques known to be beneficial when used as intended.

Accountability ushers in the conscious search for good practice in education and the public sharing of: (1) the outcomes that are desired; (2) the costs for achieving those outcomes; (3) the extent to which the intended outcomes are realized and (4) the plans for closing the gaps between what is intended and what is achieved.

It is apparent that many activities fall into a category in which their relative success may be judged on the basis of results. It is equally apparent that many do not. To meet this dilemma three distinct, but interactive, types of accountability are identified and discussed: performance accountability, professional accountability, and system accountability. From these considerations, it is clearly seen that accountability as a part of professional development in vocational and career education calls for the professional worker to be a purveyor of experience--an architect, a manager and an orchestrator of experience, and to be himself a vital and compelling experience.

Through the supply of training and educative experiences, professional workers in partnership with federal, state and local associates apply resources through accepted technology and the state-of-the-art. Accountability is essentially a system concept. Each unit and sub-system affects the system and is an integral part of assuring the intended outcomes. Two central sub-systems are the training institution and the resource allocation system.

Strategies for impacting the major sub-systems are presented and a plea is made to ground accountability in the documented needs of students, professional workers and society.

Accountability for results shifts the emphasis from teaching to learning. It is desirable, inevitable and achievable. Those in personnel development who resist it or who trivialize it will most likely find themselves replaced by others who welcome it and plan for it.

Accountability as a Part of Professional Development: Vocational-Career Education

by Leon Lessinger
and
Francis Tuttle

The United States Congress set the stage for accountability in vocational education in the "Declaration of Purpose," Section 101 of the Vocational Education Amendments of 1968. This well-known, widely publicized section is as follows:

(b) Title I of such Act (as redesignated by subsection (a)) is amended to read as follows:

"TITLE I--VOCATIONAL EDUCATION
"Part A--General Provisions
"Declaration of Purpose

"Sec. 101. It is the purpose of this title to authorize Federal grants to States to assist them to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, and to provide part-time employment for youths who need the earnings from such employment to continue their vocational training on a full-time basis, so that persons of all ages in all communities of the State--those in high school, those who have completed or discontinued their formal education and are preparing to enter the labor market, those who have already entered the labor market but need to upgrade their skills or learn new ones, those with special educational handicaps, and those in post-secondary schools--will have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training."

The implications are that the U.S. Office of Education is responsible for informing Congress of "how well the states are meeting their purposes." The states, if they accept the funding provided under the 1968 Amendments, are to be held accountable under the same "Declaration of Purpose, Section 101" as well as any other

responsibilities assigned within the state. Likewise, the local educational agencies must share in the responsibility if they accept the federal and state funds.

Accountability Defined

Accountability is a particular kind of responsibility--one in which the focus is known and a consequence is assigned. Accountability is a responsibility to someone for something with consequences associated with the fulfilling of the responsibility sure to follow.

Accountability is found in all enterprises. Two examples illustrate the concept in business and industry. A supermarket is accountable for the produce it sells--if it is spoiled, the consumer may bring it back for a refund. The responsibility for acceptable produce is clearly to the consumer with a consequence (return of the purchase price) associated with the fulfilling of the responsibility. A corporation is accountable for its earnings records--if the record is poor, the shareholders may replace the management. The corporation is responsible for profit to shareholders with a consequence devolving upon the discharge of the responsibility.

Schools have been and are now accountable. They are responsible to parents for the safety and custodial care of students. They are responsible to officials for the proper receipt and disbursement of funds. They are responsible to college admissions offices for the quality of the college preparatory program. In these examples the consequences sure to follow involve such things as possible discharge from a position, trial for malfeasance or loss of accreditation.

From the examples presented, it should be clear that accountability ought not to be confused with methods presumed to be useful to carry it out. Thus accountability is not performance contracting, or system analysis, or PPBES.

It should be equally clear from the examples that accountability ought not to be assigned immediately to any particular person or group. Thus accountability is not limited to teachers or board members or students.

Moreover, there is nothing about accountability which automatically suggests or limits the particular tool or strategy for assessing the success in discharging the responsibility. Thus, accountability is not standardized testing or measures of the cognitive domain.

Finally, from the examples presented, it must be clear that the consequences of the success or failure to carry out a responsibility are not automatically determined. Thus firing teachers for failure to produce certain levels of student achievement is not accountability.

Accountability is as old as human history and as basic to society as justice or mercy. It appears in all institutions. It is most dramatically illustrated in the Bible, where it is written that we are all responsible to God for our stewardship on earth with a

day of judgment to come when it will be determined where our final "resting place" shall be.

In considering accountability as an issue worthy of consideration in the professional development of vocational-career educators, it is essential to focus on the nature of particular responsibilities, the focus of responsibilities and the rewards or penalties directly associated with the success or failure in carrying out the responsibilities. Before doing that however, it will be useful to explore some of the responsibilities held by other professional workers which may be labelled accountability.

Accountability in the Professions

The medical profession can serve as a useful model illustrating the nature of accountability characteristic of professional workers who deal with helping persons. (This is to be distinguished from those professional workers who focus on material products, e.g., engineers.) Physicians are responsible to their clients for knowing and using "good practice" in the treatment of health problems. The consequences for failing in this accountability involve malpractice suits, awarding of damages, loss of license to practice and even criminal penalties.

The physician, however, is not accountable for insuring the continued life of the patient or for his or her improvement. No person can be held to account for the life or improvement of another person. There are too many variables and mysteries. All that can be reasonably expected is that the professional be competent and function in a manner exemplifying the use of acceptable practices or methods ascribed to collectively by the membership of the profession.

An example may be useful here. The traditional treatment (originating from folk-lore) for avoiding polio was the hanging of an amulet around a person's neck. With the perfection of the Salk and Sabin vaccine, such a practice is no longer acceptable. The physician who prescribed an amulet for the prevention of polio instead of a known "good practice" might be subject to the consequences inherent to his/her irresponsibility.

It is perhaps clear that educators are, from the previous analogy, closer to physicians than engineers in terms of their professional perspective and concerns.

By considering what accountability is and what it is not, a distinction has been noted between the accountability of professional workers who deal with persons and those who do not. Now, an attempt will be made to disclose what accountability "means" in the context of the movement which started in the late 1960's and has now spread throughout the nation in the form of state legislation, school board policies and professional directives.

Basically, accountability "means" the addition of a new responsibility to education: a responsibility to the partners-in-education (students, parents, taxpayers) for progress toward stipulated learning targets and the reporting to the public of the progress, the costs involved and the plans for accomplishing what has not been

attained. The consequences of not fulfilling this responsibility are gradually becoming evident. Monies are being directed, tax and bond issues are failing, legislative inquiries are being held and credibility is being lost. This new responsibility for results may be referred to as performance accountability. Its importance will be a function of its relation to the accountability deemed appropriate for professionals who work with people. However, further attention to the distinction between teaching and learning will be necessary to determine the dimensions of performance accountability.

If learning is the criterion, education involves far more than the classroom. The whole "point" of education is learning. Many observers would aver that it makes little difference where or when learning takes place. Learning, after all, can occur in a classroom, on the job, viewing television, in a home, on vacation, at age 10 or 20 or 45 or 60.

Conventional wisdom tends to equate schooling and education; it tends to confuse teaching and learning. Events in the previous decades have dealt sharp blows to this wisdom. It is clear that there can be teaching and learning, teaching without learning and learning without teaching. What matters most is that something is learned.

The shift from teaching to learning, from input to output, from resources provided to achievement demonstrated is what the accountability movement is all about. Properly understood and properly implemented accountability can represent the energy for purposeful change. Schooling does not have to be static like agricultural practice in a tribal society; it is changing all the time, and many modifications have occurred during the last decades. But accountability goes to its very foundation.

For better or for worse changes in schooling have been occurring quite rapidly. Most have resembled evolution in nature. As "mutations" a few have been perceived as both meeting a need and fitting a particular environment and thus have persisted. Most have not.

Accountability appears to be an idea whose "time has come." How can we in professional education use it to further purposeful change?

The Concept of Accountability for Results

As we have seen, in its purest form, accountability simply means responsibility for something, to someone, with consequences attached to the performance of the responsibility.

Accountability for results is reasonably well defined in business and industry. A supermarket is accountable for the produce it sells--if it is spoiled, the consumer may bring it back for a refund. A corporation is accountable for its earnings record--if the record is poor, the shareholders may replace the management. Plutarch put the matter forcefully into education in ancient times. He admonished those fathers who entrusted the instruction of their sons to paid strangers to "call them periodically to account."

The necessity for accountability for results in our present educational system is no less desirable than it was in Plutarch's time. Parallel increases in the numbers of students, the areas of responsibility and the cost of education makes it even more important.

It is apparent that many educational activities fall into a category in which their relative success may be judged on the basis of results. It is equally apparent that many do not. The nature of accountability indicates that the performance of a given task may be objectively evaluated and that a similarly objective decision can then be made as to whether or not the task was successfully completed. This type of accountability, i.e., performance accountability, is but one type, albeit the one that has received the most recent attention. The failure to distinguish between the differing types of accountability and the areas of education to which they should apply--or the misapplication of one type of accountability to a sphere of educational activity requiring a different type--has led to misunderstanding of the concept. This misunderstanding, in turn, has led to some unnecessary apprehension and a resultant resistance on the part of some educators. This resistance has run headlong into a demand for an accounting of results voiced by a public unwilling to continue the status quo. Clarification is in order and, perhaps, long overdue.

At least three distinct, but interactive, types of accountability for results may be identified. These are performance accountability, professional accountability, and system accountability. Each will be discussed, in turn.

Performance Accountability:

Performance accountability begins with clearly specified objectives and then proceeds to close the gap between the entry level of the learners and the desired end results. Since performance accountability evaluates the success of the instruction based upon measurements taken directly from the learner, it requires that (a) the learning task be delineated and clearly understood, (b) the means by which the performance of the task can be objectively evaluated are available, and (c) a range is established within which the task is considered to be successfully performed.

If the student does not learn, the immediate query centers on the system--its personnel, methods, materials and the like. Every effort is made to vary the process until it works properly and students do learn.

It is within the area of performance accountability that performance contracting has been utilized as a tool. Essentially, a performance contract is an agreement by a firm, group, or individual to produce specified results by a certain date, using acceptable methods, for a set fee. While the public is generally aware that performance contracts have been undertaken by business firms in conjunction with schools, many are not aware of the fact that professional educators already employed by educational institutions have entered into performance contracts with their respective institutions, both singly and in groups. There is no insurmountable obstacle to this practice. To the contrary, it offers assurances to

the teacher who knows what benefits he will derive from the institution, and to the educational institution and taxpayer who will see positive results for the expenditures made.

It should be obvious that performance accountability is more easily applied to some areas of educational activity than to others. As learning proceeds into the higher levels of cognition and into the affective domain, the specification of objectives, in terms of performances, becomes more difficult as does the development of valid and reliable evaluation techniques.

The question is, where does performance accountability apply and where does it not?

As will be seen later, institutions are involved in providing both training and educative experiences. Performance accountability is primarily applicable in that area designated as training experiences. While continued research may ultimately bring more learning into that area which may be objectified and evaluated on the basis of performance, educators must be careful in distinguishing between that learning which presently may be subject to performance accountability and that which may not. In the desire to become more accountable, educational institutions must remember that learning which does not fall under performance accountability does not automatically indicate a lack of educational desirability. Neither does this mean that the entire concept of accountability is discarded as one proceeds beyond areas in which performance accountability is applicable. It only means that other forms of accountability come into more dominant roles.

Professional (Process) Accountability:

To be professionally accountable is to both know and to use in standard practice those attitudes, skills, and techniques as revealed through research or the state of the art to be reliable and valid in getting results.

The key to the actual construction of an accountable educational system is the systematic design or location of good practice and the efficient and effective translation of that good practice into optimized prevailing practice.

The immediate question centers on the determination of what constitutes good practice and who makes this determination. This should lead, subsequently, to the locus of this particular form of accountability.

Good Practice, in theory, is the incorporation of the methods, materials and processes that have demonstrated their validity and usefulness in producing desired results when applied to specific learners with specific educational needs. Operationally, good practice has point-in-time and societal/legal determinants.

Point-in-time simply means that good practice is relative to knowledge about the subject at the time it is being considered. Medicine can serve as an example of this. As noted previously, at one point in history, it may have been considered good practice to

hang an amulet around the neck of a person suffering from a particular malady. This was simply all that was known at that point in time about the illness or the means by which it might be cured. At a later point in time, the injection of an antibiotic may have been considered to be the proper remedy. Each treatment, the amulet and the injection, was viewed as good practice at its own point in time. When more is learned, what formerly was good practice may, in fact, become bad practice or malpractice.

Society, within a framework of legally constituted representation, has a major role in operationally defining good practice. Society supports an educational system to foster and maintain itself. Society determines that which it wants to foster at the federal, state and local levels. Thus, a State Department of Education and a State Legislature have much to say about what constitutes good practice. In addition, local Boards of Education or Trustees will determine what constitutes good practice for the educational system for which they have been delegated representative authority and legal responsibility by society.

In a framework of reality, then, the professional educator may see good practice relative to his profession and the standards it has adopted at a point in time, but this must then operate within a broad context of societal acceptance and a more specific context of legality and community beliefs. This distinction between a theoretical and operational definition of good practice is crucial in the application of accountability to professional good practice. The professional educator may feel a responsibility to advocate change and reform, to push for the adoption of new programs and processes--to "educate" society in a sense--but this professional responsibility should not be confused with that good practice for which he is accountable to designated representatives of society.

If, for example, the process of research and development produces three differing methods (with accompanying materials and procedures) which ultimately prove to be effective in dealing with a particular learning problem, a state and/or local institution may adopt one of these methods. In so doing, good practice is operationally defined and the educator can be held accountable for having command of the method in use.

Professional or process accountability applies to both training and educative experiences. Thus, in training experiences, the teacher must indicate learner performance in terms of specific objectives and criteria established based on professional good practice in reaching those objectives. For educative experiences, where the objectives cannot be specified in terms of behavioral outcomes, professional good practice offers the greatest potential for realization of the desired long-range results.

Within this context, there is a growing body of knowledge about what constitutes good practice in the preparation of teachers. This includes competency-based teacher training programs, an increased amount of teacher preparation occurring in community settings, the increased use of educational technology, micro-teaching and increased individualization through modular construction of programs, just to name a few. The adoption of these and similar practices which have

demonstrated effectiveness, should be made by those in higher education at policy-making levels. This should then be followed by professional accountability--holding faculties responsible for effectively utilizing these good practices.

Successful educational reform, however, will require the application of yet another form of accountability. Attention should be focused on system accountability and its relationship to those forms already discussed.

System Accountability

Broadly speaking, system accountability reflects the degree to which an educational system succeeds in delivering on its promises in return for the resources provided. To be accountable, the educational system must continually assess the achievement of pupils; relate the levels of achievement attained to the state and community's goals and expectations, to the resources allocated, and to the techniques professionally employed to facilitate learning; and disseminate the findings and analysis to the parents, teachers, taxpayers and citizens of the community.

An educational institution reflects a system comprised of a number of integrated components such as instruction, management, and public support. Just as these components combine and interrelate to form an educational system, so do a number of accountabilities associated with these components combine to form system accountability. Moreover, each of the major components with its functions and accountabilities has clients to whom it is accountable and, fortunately, tools which can be employed to help meet objectives.

The instructional component is a collection of people, methods and materials operating in time and space to achieve verifiable levels of learning. As such, it should utilize systematic approaches to identify and accomplish its objectives in providing appropriate training and educative experiences. An accountable instructional system is conceptually a fail-safe or zero-reject system. Its basic emphasis is the successful achievement of objectives. The goal is useful learning. The process is varied until the system functions as intended.

Management centers around a technology of achieving organizational purposes efficiently and effectively. To carry out this mandate, those responsible for management plan, organize, staff, implement, evaluate and redesign in a systematic fashion. Administration in education has tended to focus on certain aspects of management, i.e., staffing and implementing, but has largely ignored the critical functions of planning, evaluating and redesigning. It is this shortcoming which must be overcome if educational systems are to be accountable for results.

Public support represents the interface of the educational system with other societal systems and is of central concern. It should be an open system receiving "energy" from outside and producing energy to the outside. This reciprocal arrangement should be the object of careful study and management by the institution.

A few of the major system accountabilities have already been illustrated. It is worth reviewing them for emphasis. For example, schools are financially accountable to the public, the state, the federal government, foundations, etc., for whatever monies are accepted. A public accounting has to be made to each of these publics to show that the funds were spent responsibly and for the purposes for which they were given.

Note: In 1971 and 1972, the U.S. Office of Education requested that school districts in several states return their ESEA Title I monies, contending that the funds had been misused or not spent for the intended purposes.

Educational institutions are accountable to professional associations and accrediting associations for the maintenance of professional standards such as the size of learning spaces, number of volumes per child in the library, degrees held by teachers, courses offered, teacher-pupil ratios, etc. Public schools are accountable for the safety and care of the students while they are in school. They have to know the location of the child and that he is in a good environment (a point at which flexible scheduling has resulted in some problems).

While accountability has often been considered only in terms of faculties, two recent newspaper items lend support for the belief that accountability for good practice will continue to be extended into all aspects of the educational system, as it should. This includes, of course, the managers and administrators of higher education.

An advertisement for a Dean of Graduate Studies states: "Must be committed to leadership through consultation and be able to work within a framework of accountability to faculty, students, and other administrative officers."

-- New York Times, Jan. 1973

Presidents on each of the State University of New York's 29 campuses will serve five-year terms from now on with renewals dependent upon how they handle their jobs . . . The new SUNY system is designed to make them more accountable both to the trustees and chancellor and to their local constituents--students, faculty and administrators.

-- The Washington Post, Jan. 1973

There are many tools which may be used to help education become more accountable for results. Performance contracting is a management tool as is Programming Planning, Budgeting and Evaluation Systems (PPBES), also System Analysis, Needs Assessment, PERT, and Auditing Systems Analysis. Instructional development, a process for the systematic development and validation of instruction, is a basic tool for the instructional component. It should be remembered that the constituent parts of the system must work together to achieve educational purposes. While it is useful to isolate parts of the system to continually explore new tools and methods and to identify

ways in which education can be more responsive and accountable, it is the composite of all of the parts operating effectively and efficiently which represents system accountability. It is professional good practice applied at every level.

At the heart of the system are the values, attitudes, knowledge, skills, experiences and commitments of the personnel involved. In the main, people generally do that which they are supposed to do. When they know that for which they are responsible, and to whom, and what the consequences are, they will perform satisfactorily.

Training and Educative Experiences

One of man's outstanding characteristics is that he is a learner. He learns continuously from the time he is born until the time he dies. To define learning, it is necessary to analyze what happens to the individual. As a result of a learning experience in which the person actively interacts he may change his ways of perceiving, thinking, feeling and doing. Thus learning can be defined as a change in behavior as a result of experience. The behavior can be physical and overt, or it can be intangible or attitudinal and thus not easily seen. The phrase "as a result of experience" is emphasized in the definition of learning because it is the key to purposeful change through the demand for accountability for results.

Each person is a prisoner of experience. It is experience which releases or inhibits potential. What is learned defies control or total description. Producing particular learning requires a contrived and ordered experience. Experiences can be contrived which increase the probability of producing a particular learning. The job of formal education consists of developing and orchestrating experiences likely to produce valued learnings. Seen from this vantage point, the disturbing finding of low correlations between teaching and learning become very understandable. If there is to be teaching with learning, the teaching must be a "compelling experience." Let us see what such compelling experiences are like.

Schools and colleges are sets of experiences affected by and affecting other sets of experiences. Teachers also might be productively viewed as a set of experiences. In doing so, it is useful to classify such sets of experiences into two categories: training experiences and educative experiences.

Training Experiences

Training experiences replicate rather accurately the situations in which required competencies are to be demonstrated. A training experience is a "slice" of a job and is derived from analysis of bona fide job situations. The key aspect of the analysis is a model of the particular job being analyzed which identifies the tasks which the person must perform to carry out his or her role effectively.

Once the job model is known, standards of performance can be written and tests of proficiency can be completed. These standards and tests become the terminal objectives or targets of the training experiences. These targets can in turn be further analyzed into skills, attitudes and understandings. These sub-targets or enabling

objectives form the structure of the instructional system or actual training experience. In pursuit of enabling objectives, the training experience consists of material to be learned embedded in appropriate media, properly sequenced and measured. Training experiences can be evaluated and those in charge held accountable for using the results. Performance accountability is the appropriate form.

Educative Experiences

Educative experiences are much like theatre. One sees a play, and if properly involved, achieves understandings and insights intended by the author. The objectives of an educative experience are not easily translated into measurable objectives. It is appropriate to describe such objectives in terms such as "appreciation," "awareness," "intellectual growth," and "emotional maturity".

Objectives of educative experiences can be communicated in a person-to-person transaction with others who have had similar experiences. Professional accountability is appropriate in this sphere and the responsibility is to be sure the client has had such experiences. There is a further professional obligation, the experience itself can be disciplined as a performing art is disciplined. It is for this reason that teaching and the facilitation of instruction can aptly be described as a performing art.

The federal, state, and local partnerships that are developed as a result of federal funding indicate that each level of government assumes some responsibility to each of the other levels. While the federal and state governments are setting the general direction by establishing priorities, they are responsible for providing the resources and conditions so the local educational agencies can deliver the programs that will accomplish the purposes established.

The nature of accountability is multi-faceted. It has many publics that must be satisfied. Some of these publics are: the governmental publics, i.e., (federal, state and local); the industrial or business publics that employ the products; the consuming publics that purchase the products or services; the educational publics who share the responsibility for the education and training programs; and finally the individual recipient of the education and training programs. Vocational-career education is accountable in some measure to all these publics and the publics to each other.

From the earlier discussion of the nature of accountability, it would be easy to draw a conclusion that the major area of accountability for vocational-career education is performance accountability. Since most vocational education involves a manipulative skill along with supporting education, it is perhaps easier to define the knowledge and skills necessary to perform in a certain job classification. A more difficult task is to define the additional knowledge individuals may need to allow them to progress into higher levels of their occupation. However, even this is more likely to be accomplished at an acceptable level than in most professional positions. The desired changes in behavior necessary to become a machine tool operator, for example, is relatively easy to accomplish. It is possible to do this even if the operator is expected to make his own set-ups for his machine. It becomes more complex to describe all the behavioral

changes necessary to train machinists and difficult to describe those to train a "tool and die" maker.

One must eventually arrive at the conclusion that local schools must have help in personnel development. How does a local school locate and employ teachers in skill areas? What competencies should these teachers possess? How do teachers acquire the knowledge and skills necessary for satisfactory teaching? Even though federal vocational education funds have been used for vocational teacher education for years, the colleges and universities are still not turning out an adequate supply of teachers in many areas. Adequate teacher education programs is a topic of discussion in most states. Both local school administrators and employers continue to question the quality of personnel development which leads to institutional accountability for personnel development.

Institutional Accountability for Personnel Development

While it is important that state and federal governments provide the support for adequate teacher education, it is quite clear that the greatest responsibility for personnel development lies with teacher education institutions. We have already indicated that to have professional accountability, it is first necessary to arrive at a definition of good practice. A part of the definition of good practice is determined by state legislatures and state departments of vocational education. While it is readily and easily understood that what is prescribed by state legislatures has legal implications, it is less well understood that state departments must provide institutions a considerable amount of factual information about the state of the state, especially in regard to the vocational, industrial, and business aspects, both present and predicted. This implies state information systems. It implies state goals and strategies. It implies vocational education goals; a needs assessment, including job opportunities; priorities; state departments institutional communication, negotiation, and perhaps contractual arrangements.

It is possible to establish a system of institutional accountability only if state departments become active, aggressive, and effective in developing capability in the areas discussed. Institutions will fail in any system of accountability unless and until they can develop the ability to become flexible and the ability to mobilize all the educational forces the institution has at its disposal within a relatively short period of time.

Many institutions presently seem to be unwilling or unable to administratively organize so they can pull together needed support from different colleges, departments, and divisions within the institution. Even if a state department of education develops the capability to provide its share of the information, inflexible institutions cannot respond. When this situation exists, state departments will find it necessary to provide their own system of personnel development with institutions playing a less prominent role.

There are other aspects of institutional responsibility for personnel development. Among these are the research and development aspects. A major portion of the institutional "research and development" capability must relate to the immediate and the short-term

future goals and priority needs of the state "research and development" and therefore should be established in conjunction with the state and state departments of education. Otherwise, the system of accountability cannot be meaningful. Consequently, for an institution to be accountable, it must be a part of a system of accountability.

The present system of personnel development needs some analysis. Many feel new strategies must be developed in teacher education programs. A great many state departments continue to contract with their teacher education institutions as they have in the past. This practice involves the state department using eligible federal funds to subsidize the cost of institutional teacher education. Many times there are no specific specifications in the contract and it merely prescribes a specified amount of dollars to be paid the institution for agriculture, home economics, distributive, business and office, and health education, etc. Most educators believe that vocational education teacher education programs are as eligible for the state's dollars as are other teacher education programs. However, the practice in many states is for institutions to divert the state appropriated dollars and use the federal dollars. The results are that vocational teacher education programs get no advantage from the federal dollars and state departments have little input into the dimensions or directions of the programs.

It is reasonable to assume that state education departments should insist that state dollars be used for vocational teacher education the same as for other teacher education programs. The department should insist on the institution providing additional services, new directions or special equipment. Institutions are not entitled to federal vocational teacher education funds simply because they provide the teacher education programs. They are entitled to them only because these programs cost more than other teacher education programs relative to the services provided.

Therefore, a program of institutional accountability must include an analysis of how the state and federal teacher education funds are used.

Strategies for the Development of Vocational-Career Teacher Education Programs with Implications for the Resulting Accountability

It is difficult to discuss the "nature of accountability" in vocational-career personnel development without at least some cursory analysis of the needs, some understanding of the differences of vocational personnel from other education personnel, and consideration of possible strategies for the implementation of programs.

The needs of vocational-career education personnel indicate new dimensions that must be added reflecting the vocational aspect of personnel development. The word "career" would indicate the awareness and exploratory activities of careers as well as the preparation and specialization of programs. This would require that elementary teachers know and understand how to assist their students to become aware of professional as well as skilled and technical careers. It would necessitate that middle school and secondary teachers understand and appreciate both the professional and vocational exploration

needed at those levels. It would necessitate that all teachers acquire an understanding of and an appreciation for the world of work and the relationship of each to the other and to the students' career interests.

The differences in the preparation of many vocational teachers and general education teachers are pronounced. A teacher of general education subjects acquires a body of knowledge in his or her teaching area along with sufficient general education and supporting subject matter areas as well as subjects in "how to teach"--all as a part of a degree program (i.e., eighteen to forty hours of technical subject matter for a secondary science teacher presumably provides the teacher with the scientific knowledge to teach science subjects). This is to be compared with the training of a machine shop teacher who usually acquires the knowledge and skills to be a machinist in noncollege-credit vocational schools and on-the-job training or apprenticeship training. This teacher must be provided with the how-to-teach techniques and general education as a part of in-service teacher education or by summer school and evening classes. It is generally accepted as a practical necessity that most highly skilled trade and technical teachers must be recruited from the ranks of practicing, skilled tradesmen. Most tradesmen spend from three to six years in some combination of trade schools and apprenticeship training before they are classified as "journeymen tradesmen." This is to be compared with the eighteen to forty college hours required of most elementary and secondary education teachers to acquire the knowledge for their teaching field.

Based on the "needs of students" and the "needs of society" some strategy must be developed to provide for these needs in personnel development programs. This strategy must be primarily developed in teacher education institutions but must be based on the existing laws, rules and regulations, teacher certification standards, and national and state priorities, goals, and objectives. The strategy must also give due consideration to the "laws of supply and demand."

It would appear that any institutional strategy for the development of vocational-career personnel development program would include decisions with regard to the following:

1. At what grade level shall "career awareness" be introduced as a part of the curriculum?
2. How shall a "career awareness" program be presented and what shall the program include?
3. At what grade level shall the "career exploration" program be instituted and what shall it include?
4. What should school counselors and school administrators know about career and vocational education?
5. What and how much general and teacher education should be provided for trade and technical teachers?
6. Should the institutional responsibility be vested in a division of "adult and occupational education" or should it be vested in all staff members in the college of education?

Obviously, such strategy can be developed only through great cooperative effort of business, industry, state government, local educators, state departments, and the institution. Such effort must

be expended and decisions must be made before "system accountability" can be developed and institutional accountability can be established.

Total accountability would indicate that each specified function must be reduced to objectives and some method of performance accountability developed. Some educators and industry representatives proclaim the real test of accountability is in the amount of learning. They claim learning can be measured by competence on the job. No one should question that this is a major factor of accountability.

The nature of accountability for professional development in vocational-career education is such that it can be established. Yet in order to establish the program, a system for accountability must be established at each governmental level, each institutional level, and at each instructional level as well as at the consumer level. (A consumer level is the combinations of employers in business and industry.)

Total accountability for personnel development then is dependent on information systems, the setting of goals and objectives, providing funds to support each level of operation, systems for recruitment and training, and follow-up systems including evaluation and feedback at each level. Accountability is eminent, desirable, and conclusive. Those in personnel development who resist it will most likely find themselves replaced by others who welcome it and plan for it.

**Work Experience for the Professional
Development of Vocational Teachers**

by Lloyd L. Wiggins
and
Ben E. Carmichael

ABSTRACT

WORK EXPERIENCE FOR THE PROFESSIONAL DEVELOPMENT OF VOCATIONAL TEACHERS

This paper is addressed to the strong advocacy of the practical work experience as part of the professional development of secondary and post-secondary vocational education teachers.

For purposes of this paper the concept of work experience in vocational and technical education professional development is defined as work experiences in business and industry which prepare or update subject matter proficiency and job related behavior in a field of specialization, i.e., a specific vocational area. It is proposed that the work experience contributes greatly to the development of those interests in work, attitudes toward work, and perspectives toward a vocation that are important for personal development of the prospective vocational teacher. Work experience, however, will contribute most to the acquisition of knowledge needed for effective vocational teaching. While it cannot be claimed that the work experience is a primary means of developing skills in the teaching-learning process, it is doubtful that institutionalized activities can offer more toward the personal development of the professional vocational teacher than the work experience, and certainly they cannot contribute as much to the building of the knowledge base needed by the vocational teacher. In recent years the concept has gained increased support by those concerned with professional development of vocational education teachers. There are several reasons for this new emphasis. Among them are; rapid expansion of programs requiring teachers with work experience, new and developing technologies, a new emphasis on the responsibility for teachers to place graduating students in jobs, and the difficulty many institutions are having in developing suitable subject matter courses in teacher education programs to serve the wide range of vocational areas.

The advocacy of the work experience for the purposes cited, however, is not sufficient for a complete consideration of it. It is important that the work experience be viewed within the context of a total professional development program, and this suggests other considerations. Training is usually measured in terms of some kind of credit. Teacher educators grant that credit--in this case, judge the worth of the work experience for a credit. When the work experience occurs, in relation to other preparation activities, it is very important. Whether the work experience is judged in terms of a static input to a preparation program versus the outcomes--behavior produced in the individual--of the experience is most significant. And these considerations cannot be independent and isolated; they must be viewed in the context of a total design for preparation of the vocational teacher.

Accepting the proposition that the work experience is a "part of" and not "apart from" the preparational program leads to the question of whether credit toward meeting the total requirements for completion of a preparation program should be granted for the work experience. That is in a system that translates performance requirements of a

preparational program into some credit base, if the performance is accepted as the outcome of the program, should credit be allowed toward meeting the credit requirements? The writers would answer the question affirmatively and propose to support and justify this position.

Work experience completed prior to the beginning of formal preparation may meet the objectives completely, and the student-initiated experience for personal convenience may prove adequate. However, we would propose that the most effective and reliable experience will occur in a manner and at a time and place in the program of training as specified and designed for it. Given a full opportunity to plan and guide the experience, an institution, should be able to provide for better guidance toward specified goals. And better adjustments should be made to improve effectiveness.

This paper is not intended to define the total requirements of a preparational program for the professional development of a vocational teacher. The purpose is to identify some of the factors related to work experience as a part of the program but it would not seem possible to treat it adequately without some reference to other requirements in total professional development. It has been stated that the three major areas of requirements for professional development are personal development, professional skills, and knowledge-content acquisition. It is proposed that work experience contributes much to personal development and to the knowledge-content areas of professional development. This obviously leaves the area of professional skills for major consideration in the preparational program. We would recognize these needs as being essential and would contend that certification should not be granted until they are met along with the work experience. We would repeat, however, that the non-work experience requirements in a professional development program certainly should be integrated with the work experience and should assist in deriving greater meaning from the work experiences. While our estimate of the amount of credit that should be allowed for the work experience toward certification is not based on an itemized list of outcomes that should be produced in the total preparation program, we are of the opinion that as much as one-half of it can be earned through the controlled work experience.

Recognizing that the opinions stated above apply primarily to the question of precertification, some attention is needed also to the questions of updating standing in professional competency, upgrading in professional status, and preparation for entering new fields of professionalism such as supervisory and administrative positions and teacher education. An effective work experience may be more difficult to specify and direct for these purposes than for precertification. Generally, it is more difficult to interrupt a personal career for the work experience and provide effective guidance for it than to include it in the basic preparation. However for the purpose of updating knowledge in vocational field we may expect the professional teacher to assume greater initiative. The acquisition of such knowledge, built upon a previous foundation, is much easier to assimilate. As a matter of fact, with the availability of inservice education to most teachers, continued professional development sufficient to keep the teacher current in his field should be almost automatic. We would advocate, however, that five-year assessments

be conducted to determine whether the professional vocational teacher is keeping updated. We propose that this should be a formalized process. We further propose that this should be a continuing responsibility of preparational institutions. And we would suggest that directed work experience might be required where necessary to fulfill the requirement. It would follow that renewed certification should be dependent upon satisfactory completion of this process, thereby, establishing certification for a five-year period and requiring renewal every five years. Again, we would not necessarily tie certification renewal to advanced degrees. We would, however, advocate the establishment of salary scales giving recognition for certification renewal instead of the degree status.

Work Experience for the Professional Development of Vocational Teachers

by Lloyd L. Wiggins
and
Ben E. Carmichael

Introduction

Professional development, measured in competence to teach, continues to be a major goal in teacher education. Teacher educators, however, differ greatly in their perception of preparation activities that will produce the level of professionalism so naturally accorded members of other professions. While we do not propose to define the level and degree of personal development, acquisition of skills in directing the learning process, or the knowledge necessary to perform at a level of teaching that will elicit professional acclaim, this paper is addressed to the strong advocacy of practical work experience as part of the professional development of secondary and post-secondary vocational education teachers.

For purposes of this paper the concept of work experience in vocational and technical education professional development is defined as work experiences in business and industry which prepare or up-date subject matter proficiency and job-related behavior in a field of specialization, i.e., a specific vocational area. It is proposed that the work experience contributes greatly to the development of those interests in work, attitudes toward work, and perspectives toward a vocation that are important for personal development of the prospective vocational teacher. Work experience, however, will contribute most to the acquisition of knowledge needed for effective vocational teaching. While it cannot be claimed that the work experience is a primary means of developing skills in the teaching-learning process, it is doubtful that institutionalized activities can offer more toward the personal development of the professional vocational teacher than the work experience, and certainly they cannot contribute as much to the building of the knowledge base needed by the vocational teacher.

The advocacy of the work experience for the purposes cited however, is not sufficient for a complete consideration of it. It is important that the work experience be viewed within the context of a total professional development program, and this suggests other considerations. Training is usually measured in terms of some kind of credit. Teacher educators grant that credit--in this case, judge the worth of the work experience for a credit. When the work experience occurs, in relation to other preparation activities, it may be

important. Whether the work experience is judged in terms of a static input to a preparation program versus the outcomes--behavior produced in the individual--of the experience is most significant. And these considerations cannot be independent and isolated; they must be viewed in the context of a total design for preparation of the vocational teacher, and they will require some management of institution-business relationships.

We therefore wish to present the argument for the work experience requirement and the management of it in regard to the following topics:

- * History and Practices
- * The Case for Work Experience
- * Evaluation and Guidance
- * Certification and Renewal
- * Institution and Industry Partnership

HISTORY AND PRACTICE

The Smith-Hughes Act of 1917 authorized vocational programs in agriculture, home economics and trade-industrial education. These programs were usually offered at the secondary level with some attention given to adult education. Programs in agriculture and home economics were offered in many rural secondary schools, and programs in trade and industrial education were concentrated in the industrial centers.

Patterns for teacher education programs were formulated in the developmental years and have remained fairly constant to the present time. Basically, teachers of agriculture and home economics entered teaching after completing a prescribed curriculum in a teacher education institution. Teachers of trade and industrial education were recruited directly from industry.

Subsequent legislation provided for an increase in program offerings to include the distributive occupations, practical nursing and other allied health occupations, technical education, and the business occupations. Teachers in the distributive occupations have been required to have a baccalaureate degree and practical work experience in a phase of distribution. Teachers in nursing and other allied health programs have been recruited from the profession. In fact, many health programs began as a part of trade and industrial education and the teacher education programs developed in the same manner.

The Vocational Education Act of 1963 authorized funds for business and office education. The availability of these funds made it possible to change many of the general business and office education programs to vocational business and office programs in a short period of time. The primary difference between the two types of programs is that the vocational program is more work oriented, and the teacher in this program is required to have work experience in business.

The above general description on the growth of vocational education indicates that work experience is not a new concept in teacher preparation. In recent years the concept has gained increased support by those concerned with professional development of vocational education teachers. There are several reasons for this new emphasis. Among them are: rapid expansion of programs requiring teachers with: work experience, new and developing technologies, a new emphasis on the responsibility for teachers to place graduating students in jobs, and the difficulty many institutions are having in developing suitable subject matter courses in teacher education programs to serve the wide range of vocational areas.

The amount of work experience required for certification has been associated with the availability of teachers. In times of rapid program expansion, as has been the case in recent years, there has been a general tendency to reduce the overall length of the work experience requirement.

Some may not be familiar with the historical and contemporary work experience requirements for the different areas of vocational-technical education. Therefore, a brief discussion of past and present work experience requirements for each vocational area is presented.

Agriculture

Prior to the Vocational Education Act of 1963, admission to an agriculture teacher education preparation program required that the person be farm reared. Some states required four years of farm experience after age 14. The basis for this requirement was that the individual would gain knowledge and skills that would be essential in his relationship with students, parents and agricultural leaders in his future teaching position. Upon entering the teaching profession, the young teacher would be working primarily with students who were also farm reared. His task was not to acquaint them with the occupation but to increase their proficiency in it.

The Vocational Education Act of 1963 provided for restructuring of the traditional vocational agriculture programs. Program planners were able to consider the decline in farm employment and the increased opportunities for workers in such areas as horticulture, farm management, agricultural technology, conservation, and service and supplies. As a result programs in these areas are now included in most state plans. Consequently, farm experience remains a requirement only for those teachers assigned to the field of production agriculture. Teachers of the agriculture related occupations are required to have work experience in their area of specialization.

Home Economics

Previous to 1963 vocational home economics programs were directed toward helping secondary students and homemakers become proficient in maintaining a home. Emphasis was not placed on gainful employment or training for job placement. Thus, the home economics teacher was not required to have work experience in business or industry.

During the past decade home economics programs in gainful employment have been developed. These programs have not replaced the traditional offerings but they have been used to increase the total curriculum offerings in many schools. Today, some schools offer only the traditional programs. Other schools offer only gainful employment courses. Many schools offer both types of programs.

In gainful employment programs, young men and women are trained for job placement in fashion design, food service, and other specialized areas. Teachers in these programs are required to have work experience in their teaching area, while teachers in traditional courses still are not required to have work experience.

Trade and Industrial

Teachers in trade and industrial education programs have been recruited from the ranks of the craftsmen in the trade and are expected to provide realistic trade instruction to students in order to meet the immediate needs of the labor force. Work experience, usually measured in number of years on the job, has been a principal criterion for selection. Seldom has formal education or scholastic achievements of recruits received much consideration. The number of years of work experience required to enter the profession has been influenced by the supply and demand of teachers to fill the available positions.

In trade and industrial education vast differences exist in teacher certification requirements among the states. Some states require less than a dozen college hours for standard certification; while others require the baccalaureate degree. All states require work experience but the amount varies considerably.

Distributive Education

The distributive education program prepares students for careers in marketing, merchandising and related retail occupations. Approximately one year of work experience is required for certification of a distributive education teacher. Work experience may be gained in either part-time or full-time employment; it is accumulated and expressed in total clock hours.

The distributive education program has changed very little and work experience has always been a requirement for the teacher.

Allied Health Occupations Education

The field of health occupations education has expanded rapidly in recent years. Foran and Kaufman report:

"Federally reimbursable vocational education is the largest producer of manpower in the health field below the baccalaureate level. The largest enrollments have been in practical nurse, nurse's aide, associate degree nurse, and dental assistant programs."¹

The above quotation clearly illustrates that health education encompasses a wide range of occupations. Providing teachers for each of these areas is possible only by recruiting them from the occupation. Therefore, each teacher is required to have work experience, and certification requirements are very similar to those found in trade and industrial education.

Technical Education

Teacher educators in the field of technical education advocate work experience as a part of the total teacher education process. They view work experience as providing an opportunity to develop an understanding of the work ethic, values, and attitudes rather than for gaining competence in a technical area. Teacher education institutions and other institutions of higher education can offer courses that will lead to technical competence, but, they cannot simulate experiences that can be equated with actual work conditions.

If the technical educator is competent in his technical area then it seems unlikely that he will be required to have the same quantity of work experience as those individuals in other disciplines who are actually learning subject matter or developing a knowledge base while working on the job in business or industry. Technical education is a relatively new offering in vocational and technical education and very few changes have been made in the total program since its inception in the late 1950's.

Business and Office Education

Federal funds for business and office education, as previously mentioned, were authorized by the Vocational Education Act of 1963. Previous to the implementation of this Act, all programs in business and office education were considered general education. Programs that became vocational were required to train their graduates for entry into the labor market. Therefore, a teacher had to have work experience in business or industry before he could be certified to teach vocational business and office education.

THE CASE FOR WORK EXPERIENCE

In the introductory comments we referred to the three major areas of professional development for the vocational teacher--personal development which is concerned with the teacher as a person and his understanding of and adjustment to the world of his vocational interest; professional skills which incorporate his ability to direct the learning of students, and his knowledge of the vocational specialty which amounts to content in vocational education as if it were an academic area in general education. We further proposed that the work experience can contribute most to the personal development of the prospective teacher and the knowledge base for a vocational area.

The major assumption of this paper is that work experience is an essential component for preparing vocational and technical teachers. Further let us assume that work experience can be evaluated and credit awarded for it by institutions of higher education. Pro-

professional competence among vocational teachers, particularly the subject matter to be taught and the professional training skills, have long been expected and required of vocational teachers. Recently, competencies learned through work experience have been given college credit in lieu of classroom instruction.

Work experience in one form or another has been a requirement for teachers to gain competency for vocational education certification since the advent of vocational education. The successful teacher is a product of a number of experiences. These experiences are obtained both in the formal educational environment and in activities not directly associated with the classroom. For many vocational teachers subject matter expertise is acquired through experiences gained while employed in a given occupation. Ideally, the subject matter necessary for the person to qualify as a vocational teacher should be a combination of formal classroom instruction and work experience. The extent to which the teacher needs work experience is directly related to the level of instruction in which he will be engaged; for example, if the institution is preparing a vocational teacher for the junior high level, both the recency and the length of work experience should be of less significance than if he were planning to teach at the post-secondary level. Why is this so? Simply stated, the junior high teacher's students, while learning the fundamental theory and basic skills, will not be seeking employment for at least three years. On the other hand, the recency and amount of work experience is vital to the post-secondary teacher's success. This is particularly true since the majority of the post-secondary teacher's students will be seeking early employment.

Since so many students do go directly into a job from high school, work experience of vocational teachers is vital. The more recent and the more varied his experience the more apt he is to become a master teacher. To be most helpful, work experience required of a pre-service vocational teacher or an in-service vocational teacher should be in the general field in which the teacher will be teaching. As instruction becomes more specialized, usually by levels of instruction, the work experience should also become more specialized.

Why is work experience deemed desirable? Work experience provides an array of experiences which can only be acquired on the job. Further, such job related experiences enable the teacher to become aware of the latest job competencies required by the business or industry in which he worked. In addition, work experience gained by the employee (pre-service or in-service teacher) provides immediate feedback of competencies viewed essential to institutions of higher education as well as state credentialing agencies. Such experiences usually prove both relevant and rewarding to the participant. Work experience helps the teacher avoid teaching obsolete theory and practice. Work experience enables the teacher to be aware of the latest development in a particular business or industry. It provides an opportunity to determine the job availability, and to become acquainted with the latest equipment and hardware used by the industry.

When should work experience be obtained? Work experience should be a requirement for both pre-service and in-service vocational education preparation. The pre-service work experience provides

the potential teacher with the knowledge and expertise necessary to perform effectively on the job. In-service work experience should be more frequent than pre-service, of shorter duration, and used primarily for updating purposes.

Work experience requirements vary among vocational fields and occupations within different fields. For example, in a long-established field the nature and kind of work experience requirements would generally differ from the requirements in an emerging occupation. Supply and demand of teachers for given occupational areas must also be considered in determining when and how long work experience may be required. Other factors to be considered in developing work experience requirements include; the availability of the teacher to cooperate, financial constraints, and the job responsibility that the trainee is to assume.

In the final analysis, the extent to which each vocational or technical teacher functions effectively on the job will be associated with how well the teacher is prepared in the current theory and practice of his given occupational area.

EVALUATION AND GUIDANCE

Several points have been made in this paper which suggest that the questions of guidance of the work experience and an allowance of credit are necessary considerations in a preparational program for vocational education teachers. Among them is the contention that work experience must be considered an integral part of the preparational program. That is, work experience must have a place and a purpose in the total activities and the experiences designed to produce teaching competency. This clearly suggests that work experience is not an add-on to an institution-contained program. It does not occur as a mere supplement to the program. Work experience in the professional development of the vocational teacher should be designed to produce specific outcomes that cannot be produced as well, if at all, by any other means of training or preparation. This suggests that a primary consideration must be given to the design of the experience and the exercise of judgement or standardized assessment as to whether the desired outcome will be produced. This falls within the scope of guidance.

Accepting the proposition that the work experience is a "part of" and not "apart from" the preparational program leads to the question of whether credit toward meeting the total requirements for completion of a preparation program should be granted for the work experience. That is, in a system that translates performance requirements of a preparational program into some credit base, if the performance is accepted as the outcome of the program, should credit be allowed toward meeting the credit requirements? The writers would answer the question affirmatively and propose to support and justify this position.

Guidance of the Work Experience

Some practices observed by the writers and used in the determination of an adequate preparational experience, involving work or other experiences, appeared to represent over-direction or sophistry. In other instances, there was a void which may have resulted from failure to assess properly a work experience

that occurred before the candidate entered a preparational program. Such an experience may not have been student-initiated for the purpose of entering formal training and certainly did not lend itself to institutional leadership. Indeed, the experience may not have produced cognitive outcomes. But the institution should be prepared to assist the candidate to conceptualize and internalize these outcomes, even after the fact, if they are latent and only need to be systematized. This may require specialized assessment and most certainly should constitute fundamental considerations in the design of a continuing program. As a matter of fact, considerations should not be limited to those outcomes anticipated for the vocational elements of the training; many general education attainments may have been achieved in the process and should not be ignored in planning the preparation needs of the individual.

Let us assume, however, that the candidate enters the preparation program without any definable work experience from which to identify required outcomes. Does this mean that the individual has acquired no knowledge and ability requisite for professional development? (Has he developed none of the personal characteristics that may have been projected for the professional vocational teacher?) As a matter of fact, can we assume that he has no knowledge (content) that may have been proposed as requirements for the professional vocational education teacher? Although it appears too often that these questions and considerations are ignored, or answered in the negative, we propose that they should not be so casually handled.

These baseline considerations, in the context of guidance, we consider to be of utmost importance in all preparation programs. They are especially important when we must necessarily consider more unconventional preparational activities and provide for the development of traits, characteristics, and abilities that do not lend themselves to conventional standards of measurement. The point of this discussion is to propose that an essential first consideration in any preparational program related to work experience outcomes, as well as other desired goals, is that an assessment must be made of the personal traits, skills, and knowledge that are present when the preparation begins. No truly adequate course of action for professional development can be projected unless this is done.

Two types of work initiatives need to be recognized as guidance requirements. As a result of various circumstances a work experience may be initiated by the candidate or as is more likely the institution. The student-initiated experience may be the result of the pursuit of an interest, the satisfaction of an aptitude, or it may even be a necessity for financial support. But whether the experience is self-initiated or institutionally-directed it would appear obvious that it should be subject to institutional guidance, in view of the fact that it occurs after entrance into a preparational program. If sufficient specifications are established with regard to the outcomes and allowances are made for the experience, then it would appear absolutely incongruent that the experience be initiated, continued, and credited without prior planning and guidance in terms of established objectives, periodic assessment of progress toward goals, and a final evaluation based on performance criteria for the specified outcome.

Work experience completed prior to the beginning of formal preparation may meet the objectives completely, and the student-initiated experience for personal convenience may prove adequate. However, we would propose that the most effective and reliable experience will occur in a manner and at a time and place in the program of training as specified and designed for it. Given a full opportunity to plan and guide the experience, an institution should be able to provide for better guidance toward specified goals. And better adjustments should be made to improve effectiveness. As advantageous as the institutionally guided experience may be, we would not advocate denial of the non-guided experience. Prior work experience may be more difficult to assess. For instance, it may have some gaps which require remedial considerations. To be adequate, assessments of the outcomes established should be valid and reliable. There can be two advantages of the self-initiated work experience; the attendant circumstances that prompt work experiences without consideration of them for a training objective can produce maximum reality in the experience. Secondly, our observation indicates that the person who switches from work in a vocation for the purpose of becoming a professional educator in the field has a high degree of the personal characteristics required for successful teaching. As a life style, he enjoys the reward of the professional life more than that derived from the pursuit of the vocation for a livelihood.

Credit

Questions with regard to the allowance of credit follow the same general line as the guidance considerations. We repeat that credit should be allowed, in fact required, for work experience. Credit should be counted toward completion of the preparational program -- it should even be credited toward degree requirements. Questions may be raised as to whether work experience should be credit granted and required for admission to a preparational program. Some might hold that the work experience should parallel and be an essential element of the preparation program. Still it could be student-initiated. More, perhaps, would hold that credibility should rely on institutional leadership and initiative in making the work experience a part of the professional development.

The reasoning employed with regard to the function of guidance in the preparational program clearly suggests our support of the allowance of credit for work experience regardless of when it occurs or the jurisdiction of it -- provided, of course, that it produces the outcomes desired. This position, we believe, has some very important implications. Most importantly, it forces an assessment of the outcomes of the experience -- the only defensible reason for requiring it. It will eliminate repeating an experience without a justifiable outcome for it. And, it would seem to follow logically that time spent in the experience would not become the criterion for granting the credit.

CERTIFICATION AND RENEWAL

If we have built a case for the requirement of work experience as part of the professional development of a vocational

teacher, and if we have established our position relative to providing guidance in the training and granting credit for it, we must now deal with the questions of certification. After achieving certification there follows the question of keeping updated, upgrading to meet new requirements of professional status, and even renewing the certification.

Some of the questions relating to certification seem to be: What should be the relation of certification requirements to the requirements for a degree? Specifically, should a degree be part of the certification requirements? With or without a degree requirement, should there be general education and academic requirements for certification?

Perhaps each of the questions above could be repeated in terms of achieving the desirable professional status. What, if any, general requirements for professional development in education should be applied to the vocational teacher? Do these considerations relate to the question of developing respectability between camps of the profession?

If we return to the more specific consideration of certification, we may need to question the work experience as a precertification requirement for upgrading as compared to the requirements for supervisors and administrators in vocational education. In any case, the question must be answered in terms of whether or not the work experience is the most desirable means of achieving the outcomes required for specified professional development.

It may be somewhat beyond the scope of this paper to discuss some aspects of the degree requirement in relation to certification, but, it hardly seems possible to avoid some reference to them. In this regard, we suggest that a degree, as presently established, may not be logical requirement as part of certification. This is stated on the belief that a degree, as required and granted for educators, is patterned much more after the liberal arts requirements than a degree that may be needed by educators, especially some educators. The honored and demanding profession of medicine does not require the conventional baccalaureate degree. Who can claim that this profession is more demanding, more complex, and requires a greater specialty than stimulating and directing learning does? Viewed in this light we would contend that, yes, a degree should be required if it could be made synonymous with certification and could reflect training for the needs and specialties of the professional educator--vocational or otherwise. More specifically, it is not the position of the writers that general education should not be required and a level of academic achievement attained. However, there are many who apply for admission to preparation for vocational teaching who have already attained degrees or even complete standing in general education and should not be required to take courses merely to meet the conventional requirements of a degree.

This paper is not intended to define the total requirements of a preparational program for the professional development of a

vocational teacher. The purpose is to identify some of the factors related to work experience as a part of the program but it would not seem possible to treat it adequately without some reference to other requirements in total professional development. Earlier it was stated that the three major areas of requirements for professional development were personal development, professional skills, and knowledge-content acquisition. Further, it was proposed that work experience contributes much to personal development and to the knowledge-content areas of professional development. This obviously leaves the area of professional skills for major consideration in the preparational program. We would recognize these needs as being essential and would contend that certification should not be granted until they are met along with the work experience. We would repeat, however, that the non-work experience requirements in a professional development program certainly should be integrated with the work experience and should assist in deriving greater meaning from the work experiences. While our estimate of the amount of credit that should be allowed for the work experience toward certification is not based on an itemized list of outcomes that should be produced in the total preparation program, we are of the opinion that as much as one-half of it can be earned through the controlled work experience.

Recognizing that the opinions stated above apply primarily to the question of precertification, some attention is needed also to the questions of updating standing in professional competency, upgrading in professional status, and preparation for entering new fields of professionalism such as supervisory and administrative positions and teacher education. An effective work experience may be more difficult to specify and direct for these purposes than for precertification. Generally, it is more difficult to interrupt a personal career for the work experience and provide effective guidance for it than to include it in the basic preparation. However for the purpose of updating knowledge in a vocational field we may expect the professional teacher to assume greater initiative. The acquisition of such knowledge, built upon a previous foundation, is much easier to assimilate. As a matter of fact, with the availability of in-service education to most teachers, continued professional development sufficient to keep the teacher current in his field should be almost automatic. We would advocate, however, that five-year assessments be conducted to determine whether the professional vocational teacher is keeping updated. We propose that this should be a formalized process. We further propose that this should be a continuing responsibility of preparational institutions. And we would suggest that directed work experience might be required where necessary to fulfill the requirement. It would follow that renewed certification should be dependent upon satisfactory completion of this process, thereby, establishing certification for a five-year period and requiring renewal every five years. Again, we would not necessarily tie certification renewal to advanced degrees. We would, however, advocate the establishment of salary scales giving recognition for certification renewal instead of the degree status.

Professional development for the purpose of gaining advanced standing as a vocational educator introduces entirely new considera-

tions. Preparation may be for the purpose of enabling one to assume responsibilities of supervision of vocational instruction, management or administration of vocational activities, or advanced instruction in the field of training of vocational educators. For these purposes, an on-the-job type of work experience can hardly be the answer. As a supervisor or administrator, one can hardly specialize in a single field of endeavor. While the professional teacher educator may specialize in one field or area, he can hardly ignore the broader requirements for total professional development of the vocational teacher. At this advanced level of development, the vocational educator must be competent in processes of planning and management, assessment of teacher competence -- personal, skill, and knowledge -- and he must possess the ability to lead and direct others in personal and performance improvement. The writers hold that the achievement of this capability might be recognized better by an appropriate system of certification than by levels of degrees, unless, of course, degrees can become synonymous with specified competency required for the level of position and responsibilities assumed.

INSTITUTION AND INDUSTRY PARTNERSHIP

Finally, a very important consideration in the planning and implementation of the work experience in the professional development program for vocational teachers is a working relationship that is established with business or industry that provides the experience opportunity. The preparation institution is responsible for specifying what the experience should produce for the preparation of the teacher and it should provide guidance and assistance in assessing the effectiveness of the experience. The industry providing the experience, however, beyond merely making the opportunity available can be of great assistance to the total effort if proper involvement is effected and a partnership is established in meeting the preparation needs of the prospective vocational teacher through the work experience. We propose four major areas of partnership relations as follows:

1. Cooperative formulation of the competencies required of the vocational teacher by the preparation institution and the community of industries that can provide work in the various vocational areas.

2. The identification of specific work experience opportunities that promise to produce the outcomes desired and the specification of each outcome expected by the work unit and the time spent.

3. An agreement with regard to the responsibilities of each institution and industry -- for the management of the work experience.

4. The establishment of agreements between the two parties for responsibilities in the assessment of the outcomes of the work experience.

A partnership of some of these working relationships would be valuable to preparation programs even without consideration of the work experience. Taking the first, for example -- cooperative formulation of the competencies required -- there could hardly be a better input to this process than from business or industry. Assuming that the vocational teacher must have the substantive knowledge in a specific vocation before he can impart it to students; the obvious place from which to draw this information is the job where the work is being performed. It would seem that this could be done best by teacher educators, managers, supervisors, and workers in time studies of job requirements as they are fulfilled by the worker. Careful documentation of the knowledge requirements as well as requirements of personal behavior of the typical worker in a vocation and by separate jobs of the vocation would be an essential base for establishment of competency outcomes.

Some job experiences within a vocation would obviously provide a better opportunity to learn than others. Each work experience should be planned in terms of the competency outcomes desired. Attention should be given to the broadest range of experiences that could be provided in a given job and still maintain reality in the experience. Thought should be given also to the length of time required to gain the knowledge and skill. A work experience for preparation purposes cannot be over-extensive in time. With regard to the identification of work experiences, the competencies to be gained by the individual through the experience should be shared with him in the form of guides and self-assessment techniques when he enters the work.

The management of the work experience should be an important joint responsibility of the institution and the industry. Institutions must be realistic with regard to the degree of flexibility that the industry can afford in adjusting to work experience needs. Also, the industry must be responsive to the preparation needs and be interested in the improvement of trained workmen through assistance to those responsible for the training of those workmen. Specific management requirements relate to scheduled entrance into work, preassessment of skills and abilities of the workman, established guidelines for achieving on-the-job skill and knowledge, conformance to the work requirements, rates of pay and responsibilities of each party for the pay, the handling of conflict situations, and progressive assessment of growth and development.

Most important, perhaps, for achieving the basic goal of the work experience, is the joint assessment of progress toward the desired competencies identified for the experience. If competency outcomes have been determined jointly by the industry and the institution, and if they have been specified for each prospective work experience and shared with the trainee when he enters employment, then both parties should be involved in an assessment of his progress toward the established goals. Performance criteria should be established and applied at each milestone of the development. Assessments should be applied at the completion of units of experience instead of to time periods. It is very important to conduct

formative evaluation of the progress which consists of remedial and adjusted types of experiences to reinforce competencies or gaps in knowledge and skills.

This discussion should not be closed without some reference to the use of this partner relationship to execute requirements of the preparational program relative to work experience not directed by the institution and performed under partnership management -- the pre-admission work experience or student initiated experience. If there is established the type of relationship described above and if there is agreement on the outcomes desired an after-the-fact type of assessment can be conducted more effectively and with much more validity.

Footnotes

¹Rupert N. Evans and David R. Terry, Editors, "The Need for Vocational Education Personnel by Terry G. Foran and Jacob J. Kaufman," The Role of Vocational Teacher Education (Bloomington, Illinois: McKnight and McKnight, 1971), p. 130.

**The Assessment of Post-Graduate Professional
Development for Vocational Educators**

by Joseph T. Nerden
and
Paul H. Schalles

ABSTRACT

THE ASSESSMENT OF POSTGRADUATE PROFESSIONAL DEVELOPMENT FOR VOCATIONAL EDUCATORS

The position taken throughout the broad statement concerned with the assessment of postgraduate professional education for vocational personnel was established upon the basis of several critical characteristics. They include the quality of the enrollee in graduate programs, the professional capabilities and competencies of the teacher-educators, the curriculums in which professional educators and their enrollees become involved, the facilities identified with the curriculums in which professional educators and their enrollees become involved, the facilities identified with the curriculum experiences, and finally the means used for evaluation. It was recognized by the advocates of the study that the central tendency of professional education should be the graduate student, and that there was an ongoing urgency to continually emphasize the careful selection of individuals to be matriculated in the graduate program. It was pointed out that predominant practices in universities and colleges, in which applicants for graduate programs tend to "self-select" themselves, should be displaced with more practical, scientific and educationally defensible procedures by the institutions. As an example, the advocates recommended that the state department of education in a state, familiar as it is with the needs for personnel to staff positions in the field of administration, supervision, curriculum, teacher education and other major areas, should be active and involved cooperatively with the colleges and universities in the selection of individuals who are deemed capable and who have potential for profiting from graduate programs. Such information should be fed into management information systems, in order that qualified individuals for the professional education program will be matched with labor market needs in the professional fields. To facilitate much of the management information system activity, it was further advocated that traditional vocational practice persist here, in the utilization of vocational occupational analyses with regard to applicant characteristics concerning backgrounds of experience, age, qualifications, potential for growth, latent leadership characteristics and/or other competencies.

Critical examination of the quality of those who provide professional education in colleges and universities was provided, and questions raised concerning "Who ought to provide professional education?" and "Who else has a role to play in providing professional education?". Emphasis was placed upon the need to broaden the base of instruction, to include not only the traditional college personnel but also those practitioners in the fields under whose guidance and internship arrangements professional education concepts may be acquired and practiced by the enrollees in the graduate programs. Even more important was the concern evidenced for the quality of the professional educators in the colleges and universities, and strong recommendations were made relative to the need of each of these individuals to maintain currency in their fields, constant contact with the dynamically changing professions, as well as the cognizance and maintenance of the need of the professional staff to continually renew itself. Many kinds of activities were suggested such as

practical work experiences away from the college or university, maintenance of outside contacts with the profession, work with advisory committees, involvement with professional, technical, and craft associations, and activity associated with state and federal educational agencies.

It was strongly recommended that all graduate programs should make active and productive use of the internship concept. Field experience and supervised internship activities were recognized as opportunities for graduate program enrollees to acquire experiences at first-hand and to experience the agreements as well as the conflicts between theory and practice in practical operating situations. Careful selection of the situations in which the internships should take place was urged, and a comprehensive listing of characteristics useful in selecting internship sites was provided.

In assessing the quality of professional education, it was strongly urged that attention be directed toward curriculum, its currency, its breadth and depth. Criticism was voiced concerning the curriculums which do not match either of the theoretical models or the practical needs of enrollees in professional education programs. Urgency was expressed for curriculum planning in terms of the needs of the individual student, and it was advocated that the curriculum (the sum total of learning experiences) for each student be a cooperatively developed plan. Thus, students planning to enter broad fields of supervision, administration, curriculum, teacher education or research would work with the designated university person to plan and put into operation a curriculum specifically designed and patterned for his or her personal needs. As a preface to such curriculum planning, constant reference to ongoing occupational analyses was the recommended practice.

It was recommended that every effort should be made to avoid "fixed" curriculums, and in their place should be current and viable curriculums. Still further, efforts of professional educators to broaden curriculums such that enrollees would see the totality of vocational education and its application to the broadest possible spectrum of population appeared as a necessity. It was urged that the careful blending of the disciplines be planned for in curriculum design, but with the central theme of the disciplines being the field of vocational education. Thus, instead of being led by economics, sociology, political science and anthropology, the vocational discipline would be central and all others would be contributing disciplines!

One of the most important elements of the redesigned curriculums for professional vocational educators it was urged should be the active use of advisory committees working cooperatively with college and university personnel, and making their talents and wisdom available in matters of curriculum planning. Long a traditional vocational characteristic, the advocates pointed out that in far too many instances, the advisory committees recommended by professional educators for use by teachers of crafts and technical occupations in the field were often not duplicated on the professional level in the colleges and universities. Recommended were advisory committees produced by carefully selected individuals drawn from administration, supervision, research, and curriculum fields in the agencies and institutions which the professional vocational education purports to provide well-prepared professionals.

In planning for the future, it was advocated that far greater emphasis be placed in professional education programming in the colleges and universities to include all of the significant and very important areas of the broad field of vocational education. Thus, evaluation of a professional education program should disclose adequate emphasis upon teaching, supervision, administration, with additional emphasis upon the preparation of professionals who will be concerned with the handicapped, special education, cooperative education, teacher employee negotiation skills, short-range planning, long-range planning, adult education and research. The advocates were severely critical of college and university programs which in eliminating some of the valuable facets of professional vocational preparation thereby contributed to the perpetuation of the lack of vision (to say nothing of lack of vocational competencies) by the student-enrollees.

Throughout the planning and the carrying out of the professional education program the advocates urged should be opportunities for frequent evaluation. Such evaluation should reflect the objectives of the program as described in the early stages of development, and the modification of these plans and goals as the professional education program was developed and carried forward. A systems approach to evaluation was strongly urged in order that all aspects of frequent and/or periodic evaluation be carefully entered into by students, professional educators, and the individuals for whom enrollees were being prepared. Such a cooperative arrangement in the vital matter of evaluation was strongly urged with particular emphasis upon the new popular systems approach to evaluation. Finally, traditional forms of institutional autonomy should be displaced by the emerging patterns which tended to emphasize interdependence rather than independence of any of the educational units. Evaluation should provide a heightened education accountability to the public in which state educational agencies, colleges and universities, local school personnel and students would be cooperatively involved.

The Assessment of Post-Graduate Professional Development for Vocational Educators

by Joseph T. Nerden
and
Paul H. Schalles

Any assessment of professional education provided for individuals enrolled in university postgraduate vocational education curricula must be concerned with all of the constituent parts of the process and the product. These parts include the characteristics of the clientele served by professional education, the quality of the professional teacher educators who are responsible for serving the clientele, the curricula in which the professional educators and the clientele are involved, the facilities identified with the curriculum experiences, and the means used for self-evaluation. Each of these constituent parts has a number of related concerns about which those individuals involved in assessment must be fully cognizant. These concerns may be raised as questions, but behind the questions must be acceptable standards or desirable criteria against which answers to the questions should be compared. Since the purpose of this paper is that of advocacy, the procedure adopted allows for the use of statements rather than questions in the discussions of the assessment process. This format makes it possible for the advocates to proselyte to some extent and to recommend the manner in which professional education should be conducted. In a sense, this paper presents many of the "should be" aspects of professional education, and in its advocacy characteristics tends to infer that a quality program of professional education will rank high in its assessment, when steps are taken early to provide for each of the constituent parts and its related concerns.

Since one of the measures of how effectively education is provided concerns the services that it renders to people, its clientele. Questions such as those which follow require answers. The clientele, or "those who are or should be served" are central to such questions as:

Who are the individuals being served?

Who should they be?

What are their needs?

Do they individually know what their needs are?

How are enrollees selected?

Do enrollees just walk in to a postgraduate facility and make application?

Is there an organized program and procedure for seeking enrollees?

Is it possible to identify potential enrollees?

What are the criteria that appear reasonable to use in the identification and selection of enrollees?

IDENTIFICATION AND SELECTION OF ENROLLEES

An examination of the procedures used in colleges and universities in the United States would appear to reveal that there are few (if any) organized procedures for reaching out into the field for the purposes of actual identification and selection of those for whom professional education of a postgraduate nature would be profitable. Rather, the clientele served by the institutions tend to make such decisions largely independently; each then makes application to the Graduate School office for admission largely upon his or her own volition. By referring to the graduate catalog and taking the required (if any) qualifying examination for the postgraduate program, the enrollees are considered by graduate faculty committees and some are recommended for admission. The motivations which attract individuals to the graduate schools are varied and they include, for example, the possibility of higher salaries, qualifying for a higher position, the need for additional professional education to continue in the current position, the desire to be qualified for a position which may soon be available, or even the desire to acquire a higher level of professional education when there are no immediate prospects of a position at a higher level. Other than a casual reference in the applications for admission to graduate schools, little emphasis is placed upon future targets; little is generally known about the motivational aspects of those who make application to the graduate schools. The interview that is part of the graduate program acceptance procedure on occasion sometimes reveals more about the motivation than do the brief requests for information in the application to the Graduate School. Even then, the actual professional needs of the graduate student are not generally well defined in his own mind, particularly when his only concern is to prepare for a better job at a higher salary. On the other hand, if the major motivational force of the applicant is to acquire specific information concerning an area of supervision and/or administration for example, he may have more specific needs in mind. In any case, the assessment of professional education should begin with the procedures utilized by graduate schools to ferret out the reasons why applicants to the graduate school wish to proceed with the program. This is not to advocate turning away those whose respective ambitions are not yet clearly defined, but certainly with the large numbers of individuals who annually make application to graduate schools, efforts should be made to select for admission on a priority basis those whose objectives are clearly in mind, clearly stated, and targeted upon a special area of activity.

As indicated earlier, there is also need to employ organized procedures for identifying potential enrollees, prior to the time when actual selection procedures are applied to them. This need was emphasized by Nelson when he urged vocational professional educators to assess their procedures in selecting enrollees and to "identify qualified persons...and through organized educational experiences... help them to enter the profession."¹

Unless something of an identification system has been devised and is used, there tends to be reliance upon the "walk-in" type of applicant whose motivations and interests may be at variance with the objectives of the professional program. For example, if there are in fact undergraduate courses, concepts, attitudes, appreciations and other related bodies of cognitive and psycho-motor skills required for success in a graduate vocational education program, then it is conceivably a low priority matter to consider for admission those individuals who have completed undergraduate programs that emphasize other disciplines. To present this thought specifically, if a strong background in vocational courses and skills is a requirement for admission to a professional program on the postgraduate level, time may be wasted by the graduate administrator and applicant in trying to adjust a liberal arts undergraduate preparation to a vocational post-graduate program. The point here is that the "walk-in" procedure does not effectively capitalize upon the availability of valid data in determining the characteristics of those individuals who should be concerned and ultimately involved with postgraduate professional education. It would follow then that in assessing a program of post-graduate professional education, it should be a prime concern of the assessors to examine the organization of, and the procedures by which applicants arrive at the graduate school, as well as the determination of the motivations which were responsible for the individuals' decisions to enter the graduate program. Further, the assessment process should examine carefully efforts and procedures utilized in the early identification by graduate school personnel of those individuals in the field who should be encouraged to proceed with a program of professional education.

PROCEDURES AND CRITERIA FOR SELECTING ENROLLEES

Assuming that a more uniform quality of enrollees will be assured if early steps are taken to identify those who could profit from professional programs in vocational education, it would also follow that criteria should exist for the identification and selection of the ultimate enrollees. These criteria should relate to how potential enrollees should be chosen; how many of them should be chosen; and what the demand in the field is for the graduates. These are the essential and basic initial concerns for which answers and solutions must be found early in the process. The assessment of the ultimate successes and limitations within the professional education program might well depend upon the extent to which these initial considerations are given attention and weight. Steps should be taken at an early stage to assure that certain facets of management information are made available to the graduate faculty of the colleges and universities that prepare individuals for entrance into vocational education positions. These positions identified by the management information should be as broad as the field of curriculum, supervision,

school finance and management, administration and research. The demand for personnel to fill positions of these types will reflect the efficacy of information derived from the management information system; it should be clearly evident that devices and procedures for obtaining accurate information relating to the supply and demand characteristics represent functional considerations. On the one hand, there is need to identify individuals who have the required competencies to function effectively in the above positions; on the other hand is the urgent need for the actual numbers of vacant or projected positions which require personnel having specific competencies. Also required is the number of new categorized positions that may be expected to be created by an expanding vocational education program. Whether these types of specific information are available at the college or university, or whether the provision of such data is the responsibility and the on-going activity of the vocational division of the state department of education is often a moot question. In general, since state departments of education have the prime responsibility for assembling data and statistical analyses concerning all segments of vocational education programs, it would be a fair assumption that it would have the necessary funds and personnel to obtain the data concerning numbers of personnel available for graduate programs and numbers of positions requiring the skills and competencies of those that complete a professional education program in the vocational education field. The assessors of the successes and limitations of the professional education program should be fully cognizant of the requirements relative to personnel, their sources, the supply and demand indicated, and should make use of criteria which sense, pry into, and evolve relevant data.

THE OCCUPATIONAL ANALYSES

Another step which is strongly recommended in the process of finally evolving a student body for the professional education program requires that an accurate occupational analysis be made of each of the professional positions that should be filled in the field. Thus, the individual who will go into the position of vocational curriculum director or he who will go into the field of supervision, or of school planning, or of general administration should have available a carefully worked out occupational analysis. Such an analysis should reveal that individuals who have certain definable characteristics, specific backgrounds of experience, certain age qualifications, potential for growth, latent leadership characteristics and/or other competencies, characteristics and traits are those needed to fill the identified positions with competent professionals. Only with the completion of the task of occupational analysis for each position should the institution proceed with selecting the individuals for admission to the graduate program. Knowing the specifics of individuals needed for the professional positions, and having carefully worked out occupational analyses for individuals to use as guides, should enable the professional education program to move ahead swiftly and with real purpose. Conversely, when an individual is permitted to enroll in a professional program for which there is no accurate occupational analysis, the ultimate result can be expected to be a professional person broadly prepared on a postgraduate level without relevance to the competencies and qualities needed to perform effectively. The results of the procedure which makes full

use of occupational analyses may reveal some rather interesting information. For example, one may discover that in order to perform efficiently and effectively in a particular area of supervision and/or administration, it may be unnecessary for an individual to have had four to six years of practical and successful teaching experience; or, one may discover that eight years of experience as a journeyman in a skilled craft as a prerequisite to becoming a supervisor of vocational education has little validity as a criterion of selection. In the past, many states have required as prerequisites to qualify as a vocational supervisor, a specified number of years of successful teaching experience. However, observations made in the field of administering vocational education would seem to indicate that the low level of correlation of teaching and work experience with success as a supervisor or administrator may prove that the convictions that have guided employment decisions have been neither logical nor valid. At the present time and under the sponsorship of the National Program for Educational Leadership, approximately one hundred individuals drawn directly out of the field of private business and industrial management are being prepared to take on school administrative positions. They are undergoing two years of extensive professional preparation which includes involvement in courses, seminars, internships and workshops designed to provide them with the skills normally connected with the cognitive and affective domains associated with school administration. Time alone will reveal whether this particular experiment has values in both the general education aspects of the public schools and in the vocational programs on whichever levels of education they are conducted.² In the meantime, intelligent skepticism should be used to question the bases for the identification, selection and ultimate enrollment of individuals for graduate study in vocational education. Questions should be raised concerning the qualities, traits and attributes needed to be a success in the field of supervision, administration, curriculum coordination or research. For each of these categories of employment, the traits and attributes may be quite dissimilar; hence, the process of selecting individuals to engage in professional preparation to meet the requirements for successful performance in each of the employment categories ought to undergo some very strict examination. In a sense, the selection process should be typically vocational, in that the job analysis should reveal the needed competencies, traits and capabilities of an individual for a particular type of employment, and the preparation of that individual should be keyed to the specific occupational analysis.

PRACTICAL WORK EXPERIENCE

In assessing the program of professional education, one of the extremely important matters that should receive attention concerns the matter of practical work experience and its validity as a discriminator of enrollees who should enter the vocational education program on the graduate level. As indicated earlier, some doubt has been expressed in the past, and some evidences of experimentation at the present time may tend to disprove the need for practical work experience as a prerequisite for graduate work. However, evidences secured and observations made over the years have appeared to validate the element of practical work experience as an important segment of the prerequisite qualifications of candidates. Practical

experience in the world of work has appeared as a necessity in order to supply needed information to an individual. Also, it has tended to influence the attitudes of individuals which in turn affected their competencies in the fields of supervision and administration. First-hand knowledge acquired in the world of work, actual participation in work with others, observations made of other occupations and the conditions under which individuals conduct their work, labor and management relationships and a host of other work aspects exterior to the school have provided supervisors and administrators with a point of view, appreciations and attitudes concerning the labor market, all of which has tended to bear heavily upon the curriculums needed to be offered, and the individuals who should be selected to provide the instruction.

LATENT LEADERSHIP AS A PREREQUISITE

In addition to the foregoing prerequisites, anticipated selection of enrollees to graduate programs should place sufficient emphasis upon each individual enrollee's potential for growth and his latent leadership characteristics. Both characteristics are difficult to discern in an interview, or even by the skillfully made written tests designed for those purposes. However, frequent contact with identified individuals in the field, observations made of their activities in the fields of teaching and/or supervision should reveal some of the latent characteristics of leadership and of their potential for future professional growth. Observation, discussions with, and analyses of behavior of individuals in the field should be profitable to the college or university that anticipates enrolling them in graduate work, and also to the individual himself who may not have recognized or evaluated his own qualifications and limitations vis-a-vis enrollment in the professional education program. Thus, in summary, it should be noted that advocacy is placed upon an organized procedure for searching for, identifying and selecting enrollees, rather than upon the tendency of the university or college to await the voluntary chance arrival of the enrollee at the campus. Instead of placing credence upon the individual's initial move and tentative decision to proceed with professional graduate work, the institution should accept the challenge and should be the first to move in that direction, then out into the field to observe individuals in their respective teaching, coordination or supervision activities. The assessment of the quality of enrollees, should anticipate the activities of the institution as a prime mover in the selection of enrollees; the quality of the professional education program in the institution should unquestionably reflect these improved selection procedures.

RESPONSIBILITY FOR PROFESSIONAL DEVELOPMENT

Professional educators in the colleges and universities are equally important in the provision of high quality professional education programs. These individuals who are responsible for serving the clientele identified earlier have long been the subject of debate, particularly when the question of "who ought to provide professional education?" is under discussion. Traditionally, professional education for vocational personnel has been conducted in colleges and uni-

versities where instruction, development of curriculums, learning activities and professional activities have been provided in accordance with institutional standards, procedures and missions. However, during more recent years, the question of "who else has a role to play in providing professional education?" has received increasing attention. Intermediate units, or those agencies responsible for county education programs, city education programs or even large school education programs, have been given consideration in regard to the provision of professional education, and to some extent have been actively engaging in the activity. Where matters of certification or credentialing has been at issue, the provision of professional education by the intermediate agency have often been recognized as adequate and the basis for certificate approval. However, where there is the requirement upon the individual student to supply evidence of earned college credit and there is need for using such college credit for promotion, salary increases and qualifications for higher positions, the use of intermediate units for professional education tends to break down. In either situation, it is important that the assessment of a program of professional education should critically evaluate the individuals who actually prepare the enrollees for employment and for engaging in professional responsibilities in the schools and communities; evaluators should include in their consideration the traditional college and university procedures as well as those procedures used to staff the intermediate units. Further, consideration should be given to the widely publicized administrators' academy procedure which has enabled counties, states or other school divisions to organize workshops under the guidance of experienced school administrators and/or supervisors, and to provide the instruction, information, and learning experiences needed by the enrollees to prepare for the specific higher level positions in the field of supervision, administration, coordination and research. Such an administrators' academy could understandably reach across school division lines, and might involve entire regions. Administrators' academies which have been organized under the guidance of experienced educators have proved to be reasonably successful, and the American Association of School Administrators has used the procedure throughout the country on an in-service basis. Where workshops have been conducted, several days of intensive study, cooperative learning experiences and activities have been provided individuals concerned with special areas of administration; the results as reported by the A.A.S.A. appear to be highly satisfactory. Thus, whether professional education is conducted by a university, through the facilities of an intermediate unit, under the aegis of a State Department of Education, or by an agency similar to the administrators' academy, professional education designed to meet the needs of selected enrollees should be seen as the responsibility of many segments of the established profession. Thus, "who should provide professional education?" becomes a moot question, since it is clearly evident that it is not solely the responsibility of the college or university. Notwithstanding this observation of fact, the preponderance of professional education is still with the institutions of higher education; important efforts should be expended by these institutions to maintain and further improve both their processes and products.

QUALITY OF TEACHING

As an important first step in the matter of assessing and subsequently effecting improvement in the quality of professional education for vocational educators, careful scrutiny should be applied to the qualifications of those faculty members who conduct the professional development programs which prepare individuals to take on such vocational education positions as those in the field of leadership, administration, supervision, research and curriculum development. Questions should be raised which are concerned with "What should be the qualifications of those who are responsible for meeting students daily, cooperatively organizing their programs of study, planning for their internships, advising and consulting on a continual and continuous basis?" "How should faculty members be selected with regard to needed traits, competencies, and personal characteristics when they are considered for employment in a college or university?" "What should be the individual's background of work experience, if any?" "And what kind of formal education should an individual have?" All may be significant indicators, and possibly predictors, of the quantity and quality of the professional education process that will be provided enrollees. Without the appropriate qualifications of educational background, practical work experience and pertinent cognitive information, there is little likelihood that the quality of the enrollee upon completion of his professional program will be much better than that of the teacher. Traditional methods of selecting faculty, with emphasis placed upon earned degrees in college work of some kind leaves much to be desired; these methods are not calculated to provide a teaching and advising faculty that will have highly positive effects upon students. An assessment of such a program would certainly reveal the inherent weaknesses. Students in the broad field of vocational education, and particularly those that plan to go into the elements of the profession that require leadership, supervision and/or administration, appear to be highly discriminatory in their selection of professors in the colleges, where such a choice is possible for them. Word passes among students very quickly concerning the lack of quality in instruction which occurs by virtue of lack of actual experience on the part of the faculty member, or lack of contact with the world of work. Further, the field of vocational education (if we ourselves believe what we have been describing to the taxpaying public for many years) is a dynamically changing type of education, quite different from the changes that occur within the usual academic education elements. It should be apparent from the foregoing that enrollees who are destined to conduct vocational education on local, state, regional or national levels can be considered appropriately qualified to meet their several challenges, duties and responsibilities, only when faculty selection procedures guarantee that the individuals selected for the teaching and guiding responsibilities are those who teach what they have experienced and know, rather than those who might be teaching on the fringes of their knowledge on teaching concepts from materials that they themselves acquired in a college or university. In assessing a program of professional education, the quality of the teaching faculty should, of course, be a facet of the overall assessment.

Positive procedures should be utilized to assure that adequate time and effort is expended upon the review of the individual's accumulation of earned credits, publications and research. This is strongly recommended in order to provide time to assess and weigh the kinds of practical contacts with the world of work that the individual has had, and the extent to which he has made use of these qualifications in his ongoing work at the institution. Also, care should be taken to note the extent to which the long-term faculty members have engaged in community activities, practical work experiences, outside contacts, work with advisory committees, and with professional, technical and craft associations. Maintaining currency in their professional responsibilities, whether during a regular academic year or during sabbatical leaves should rank high in the assessment priority listing. Further, assessment should weigh carefully the nature of the activity and/or study that was conducted during the sabbatical leave, with particular reference to whether or not the study included practical ongoing experiences in local administrative units, state education departments, regional education offices and other relevant sites. Records and reports of actual and practical work experience during the sabbatical period should provide excellent sources of information for the assessor, relative to the quality, interest, motivations and ambitions of faculty members.

INTERNSHIPS FOR PROFESSIONAL EDUCATORS

Internships in the field of education are not new. For many years, teachers have engaged in this highly specialized and extremely valuable segment of their preparation, and have been afforded opportunities to try out in actual classroom, laboratory and/or shop activities some of the skills that they had learned about in teacher education courses. Such internship experiences were described by such names or titles as "practice teaching," "field experience" and "supervised training." In a sense, the internship phase was actually a short-term apprenticeship, differing only generally in content and procedure from the long-term apprenticeship under which most skilled workers did (and still) prepare themselves for the labor market. With numerous examples of efficiency in industrial apprenticeships, and with reference to education's long experience in the field of "practice teaching," it would appear to be educationally sound and feasible to extend the benefits of the field service type of activity to all of the areas in which vocational personnel are prepared for such specialized professional activities as supervision, curriculum management, research and administration. Internships have not generally been the case in collegiate work where vocational education personnel have been prepared; however, within recent years the E.P.D.A. (Education Professions Development Act) provisions, coupled with funds made available from federal sources, have stressed the internship requirement in professional education for vocational personnel. As an effective bridge between the theory acquired in the usual sterile academic environment and the practical world of applications, internships have been strongly supported by enrollees in E.P.D.A. programs designed to prepare future leadership in the profession. Still further, many of the enrollees have attested to the validity of internships in making their respective transitions from academic into the real world both smooth and satisfying, while at the same time effecting valuable employment contacts for them.

Some criticism of internships for professional persons, particularly "practice teaching", has been voiced by administrators. For example, Haskew reported that "...there seems to be diminishing confidence in the efficiency of sheer experience as a vehicle for constructive learning which consumes such a large proportion of the time and energy allotted to the professional sequence."³ However, only occasional criticism of internship has been voiced; it is recommended as a viable segment of the planned program to prepare vocational personnel for upper-level positions in professional education, and to be identified to receive intensive investigation, study, evaluation and weighting in the overall assessment process. To facilitate the effort, colleges and universities concerned with the professional education of vocational personnel should adapt the highly successful elements of industrial apprenticeship procedures and process to the needs of higher education. Emphasized here for inclusion are such elements as (a) general and specific objectives to be prepared by the triumvirate of the enrollee, his advisor and the critique individual in the field; (b) the experiences to be provided in the field; (c) the roles of the institution and the critique-person in the field vis-a-vis guidance and supervision; and (d) procedures and instruments to be used in the periodic and final evaluations of the successes and limitations of the internship. Also, in order to afford enrollees every possible opportunity to experience at first-hand as many practical applications of theory as time will permit, internships should be cooperatively designed by all who are to be involved in its activities. Special precautions should be exercised to assure that the university personnel who guide the enrollees themselves have had sufficient experience in internships to be fully cognizant of the elements of internship design and administration. Of great importance is the critique-individual in the field who should be very carefully selected, both by the enrollee and his professional advisor at the university, since the critique-person or persons will be expected to provide the experiences which enable the internee opportunities to link up the concepts and theories to their actual applications in the world of practical education. The critique-person will be required to provide "on-the-job" instruction and supervision, as two of the important elements of the internship. "What then should be the qualifications of the critique-individual?" must be the concern of the assessor of the professional education program. Recommended for serious consideration for evaluating such personnel are criteria such as:

1. They personally should be successful individuals in the field of concentration in which the internee plans to engage and seek employment.
2. They should evidence the personal traits that tend to attract to them for advice and guidance the internees for whom they will be responsible.
3. They should be particularly tactful and adept in critiquing the performance of internees under actual "on-the-job" conditions.
4. As the "on-the-job" supervisors, they should be those whose past records have identified them with outstanding skills in supervision.

5. The critique-persons should be fully acquainted with the objectives of the interneers, and be equipped to assess the learning and skills that result from specialized activities in the field.

6. They should be fully aware of their responsibilities to supervise the enrollee in the field, to help in the planning and modification of interneers' learning experiences, and to evaluate growth, successes and limitations.

7. They should be fully aware of their responsibilities to periodically review cooperatively with collegiate counterparts and with the interneers, progress being made, areas of experience in which the interneers need further practice, and above all the correlation of the in-school and in-field experiences.

In assessing a program of professional education, the assessors should be fully aware of the fact that not all enrollees require exactly the same amount of time and the same kinds of internship experiences. Internship segments should be designed to meet the specific requirements of the enrollee, and when those specialized experiences have been evaluated and judged adequate and complete by the critique-individual in the field and by the university level professional educator, that internship segment should be discontinued, and emphasis placed upon other elements or segments of the internship or professional education program. Assessment of such a program should note that the internship phase is a carefully designed, mutually agreed upon, program of learning activities designed on an individual basis and continuing throughout the mid to latter segments of the professional education program. As a matter of fact, many of the learnings in the cognitive domain normally learned in classrooms of the university could profitably be considered for acquisition in the field! Thus, the professional education program should be directed toward far less book and classroom activities in the university and more and more field internship work in the future.

ASSESSMENT OF CURRICULUM ELEMENTS

During the past several decades, professional education curriculum has undergone some study and reorganization in an effort to have enrollee learning experiences reflect needs revealed in the field. Many of these studies began with a definition of curriculum, and this beginning caused a few problems. For example, the literature is replete with definitions of curriculum that include such meanings as activities, materials, the title of the program, activities which yield credits or degrees, and others. In one state, "courses" in two-year post secondary institutions which yield transfer credit to a four-year college are referred to as "curriculum programs." In the same state, should an enrollee engage in instruction designed to prepare him for the world of work, yet not result in a diploma or a degree, the total activity is defined and referred to as a "non-curriculum program." Confusing use of the term "curriculum" has tended to becloud the concern that should be felt in colleges and universities for the curriculums available to graduate personnel. From the foregoing discussion of internship, and particularly that phase of it that should take place in the field, it should be clearly

evident that the definition of curriculum for this paper (at least in the opinion of the advocates) should be "the sum total of the enrollee's learning experiences planned for, organized and carried out, both within and outside of the institution." Thus, with curriculum understood to be the sum total of experiences in which an enrollee would engage while using the world as a laboratory, it should be obvious that here again the experiences that are selected, engaged in, and ultimately evaluated should be the joint concern of the professional at the university, the enrollee, critique-individuals in the field and others. This is a very important point, and one that was commented upon by Powers in his analysis of quality in collegiate education. He stated that "benefits emerge from the students, faculty (and others) talking, planning, anticipating and becoming mutually involved in...goals...that all recognize as worthwhile. Student involvement has become a shibboleth of higher education."⁴

With frequent reference to the professional education curriculums that have been the basis for guiding other vocational education personnel to high levels of achievement, the individual enrollee should carefully examine and evaluate the potential of those curriculum characteristics, in which he might involve himself. Courses, workshops, internships, independent study and research are examples of the kinds of learning activities which the enrollee, his professional advisor and others should cooperatively plan for and organize. Also, in order to assure individualization of curriculum planning, the enrollee should understand that he is free to outline with his advisor additional activities in which experience is desired and needed, as well as the desirable sites for the acquisition of special skills and knowledge.

OCCUPATIONAL ANALYSIS AS A PREFACE TO CURRICULUM PLANNING

Cooperative curriculum planning tends to be time consuming, but it can be made far more positive and it can be facilitated in terms of time, when it is preceded by a detailed occupational analysis of the target area of concentration in which the enrollee plans to engage. Thus, if the enrollee is preparing for the management of an area curriculum center, or with the supervision of an area vocational program, or with state department of education supervision of area vocational schools, or with the administration of local, regional or state activities, the accurate analysis of the cognitive and affective domains for these particular target areas should provide valuable guidance. Using traditional and highly successful vocational procedures, the occupational analysis should precede the engagement of the student in his preparatory curriculum. It should be quite apparent that with a detailed occupational analysis, coupled with information obtained from successful personnel in the field, guided by a skilled advisor at the university level, and in which curriculum decisions are cooperatively made with the individual enrollee, the curriculum sum total of learning experiences should be a model of currency and "up-to-dateness." As a word of caution, however, once the occupational analysis has been provided for an enrollee, it should never be considered to be "fixed" and determined for any particular length of time. Rather, for every enrollee that is concerned with a target area of emphasis in the field, steps should be taken to assemble an advisory committee of successful professionals

from the field for the purpose of assisting in the identification of the learning experiences needed by the enrollee. Graduate follow-up information obtained from earlier completers of the professional education program at the university should yield much valuable information, particularly as these graduates report on areas of instruction and experiences that were valuable, useful, useless, incorrect, not current or even omitted.

THE INFLUENCES OF TRADITION UPON CURRICULUM

In assessing the quantity and quality of the curriculums of the enrollees in graduate professional education program, tradition and its many influences upon the faculty, educational processes in the university, and upon the attitudes of the enrollees themselves should certainly be important elements to examine critically.

Traditional courses, traditional reluctance of university curriculum committees to make changes in programs designed years earlier, and even provincialism in the behavior of professionals in the universities who have long been out of touch with reality, should be the concern of the assessor. The converse of traditionalism should be the hallmark of the professional education personnel needed to staff today's institutions on any level. Assessors bent upon accurate assessment of the professional education program should be fully aware of the dynamic characteristics of modern, current curriculums and the urgency to use every possible and cooperative procedure that will guarantee that the curriculums are maintained current, viable and relevant to the needs of the individual enrollees.

CURRICULUM AREAS TO BE SERVED

As vocational and technical education become more integral with the total education process, it will become necessary to develop teachers and leaders who have "broader vision." Professional development programs should be developed in keeping with overall objectives and goals in common to all education. The professional development program should, therefore, become more of a professional system, requiring a careful mix of existing as well as new curriculums, with inter-as well as intra-disciplinary approaches.

In assessing the needs for professional development in the field of vocational education the planners of new programs, new curriculums, or special projects should become more sensitive to the needs of the marketplace. Vocational education administrators, supervisors and teachers should be provided assistance to cope with the multitude of complex problems that cut across many fields. No other type of educational programs have been as radically affected by fluctuations in both the economic and the social conditions of the community. Programs should be broadened to give increased consideration to disciplines other than just those (specialized) areas of vocational-technical education. Economics, sociology, political science, psychology, and anthropology should be disciplines selected to contribute to broaden insights of vocational leaders into the problems of the "whole" community.

Legislation at the federal level as well as in most states has tended to further reinforce the demands for change. These legislative mandates require vocational and technical educators to become more knowledgeable about more and different areas within as well as outside the traditional fields of vocational-technical education.

In assessing the need for a total system which would include the program for professional development, consideration should be given to the various levels of responsibility by differentiating the functional roles as well as the levels of education. Ward and Schaefer suggested such a program, organized around five spheres for professional development as follows:⁵

Instruction - Areas of Specialization

Human Development and Resource Utilization

Administration / Supervision / Coordination

Curriculum / Instruction / Materials Development

Research and Development

ADVISORY COMMITTEES AND CURRICULUM PLANNING

The use of "outside experts" in educational planning for program development, especially when assessing the college or university professional development program, may tend to raise hackles and create suspicion as to interfering with or challenging academic prerogative; yet, it has been generally conceded that advisory committees should be established to assist in developing the program, not only for the specialized fields of vocational and technical education, but for the other disciplines relative to the development as well.

The importance of advisory committees has long been recognized at the local level. For years, program planning specialists have insisted on the use of craft committees to insure that specific objectives would reflect the needs of the "marketplace." In recent years, the example at the local level has promoted the emergence of advisory councils at both the National and State levels. These councils have played important roles as advocates of vocational education. Evaluation reports published by these councils over the past several years have included many recommendations, specifically concerning the need for change in the professional development of vocational education teachers and administrators. High priority has been given the recommendation that vocational professional education should develop unified programs, rather than continue training in separate programs for selected occupational categories.

Vocational teacher education institutions should establish general advisory committees with membership representative of business, industry, allied health fields, and other agencies and institutions which vocational education serves. Such an advisory committee would be expected to facilitate communications between the professional development program and the community it serves. In addi-

tion, there would need to be other "advisory" groups of craft committees. These smaller craft advisory committees would insure that preparation in the various fields of vocational specialization would be up to date with current skills and technical requirements. In addition to such specialized advisory groups it will be necessary to utilize interdisciplinary advisory committees, drawn from the psychological and social foundations of education within the college or university. This group should involve researchers, administrators, and other professional disciplines, including media specialists. The group should provide a forum by which professional development programs would be subjected to constructive criticism, and to assist in desired changes of curriculum. Professional development of the vocational-technical educator can no longer be treated as a one-time project. The needs must be included in the immediate as well as the long-range plans of the teacher education institutions.

PLANNING FOR PLANNING

Any useful productive educational change should be preceded by planning devices or mechanisms that provide data necessary to assess the problem at whatever level. Planning is inherently time consuming, and should be supported with appropriate resources: money, manpower, and data. Multiple approaches to planning, with specific variations, should be anticipated since there may be inherent dangers in assuming that a single model approach is best; the involvement of outside resources should be evident as a means important to bringing about desired change.

State Departments of Education have a responsibility to assume a more active role in supporting the continuing processes of institutional change. In the discharge of this responsibility, the direction of funds becomes critical, accountability becomes the key word, and state agencies tend to be held more accountable in this area. Among the criteria to be used for allocating resources should be an evaluation of the institution's interdisciplinary commitment to the professional development of the undergraduate as well as the graduate program.

Resources for professional development should also be made available to institutions and agencies, other than those collegiate schools or departments that specialize in vocational education. State departments, however, should exercise care in encouraging expansion in this direction and criteria should first be developed to insure articulation of such projects with existing collegiate programs. Proliferation that may result in watered-down programs or projects that have little or no chance in making a lasting contribution to the vocational education professional education program should be discouraged. Broadening the options available to the local educators (teachers and administrators) should be the prime consideration, and this may be accomplished by supplementing rather than supplanting or duplicating existing programs!

This is an era of change-agents, and change is occurring either by design or as an intangible result of the use of discretionary monies on the part of program managers on several levels. State departments of education have taken a more positive stance with re-

gard to higher education. High priority has been given to professional development programs for the school systems, and vocational education should receive a proportionate share of such a program. "Soft monies" in some instances have flooded the "marketplace" with innovative programs, and colleges and universities have often found themselves in competition with state and local education agencies for this market. The use of in-service training councils or consortiums administered by the Local Education Agencies (LEA's) have reinforced the trend toward in-service training at the local level. This trend is not new; vocational education had its beginnings through extensive pre-service training provided by LEA's. This need has traditionally been met at the local level. The LEA's have become the action units of education, and the most important component of these agencies is the teacher. Through efficient use of LEA's, vocational education might well become a leading proponent of the community based system of professional preparation. Competency based rather than content based programs have always been the hallmark of vocational education, and can be more effectively controlled locally.

The rate of change in the professional development program has been observedly much slower at the higher education level than at the local educational agency level. Many universities and colleges have studied the issue but curriculum offerings reflect only minor changes. The program of professional development for vocational education has continued to be treated as an ad-hoc project, relegated to a grant-type program, almost without exception excluded from the mainstream of schools of education or university planning. The continuance of this pluralistic behavior, which is also manifest at state department levels, results in a professional preparation apart from education rather than as part of the education system. Meanwhile, vocational teachers and administrators have been charged with the responsibilities of changing and to provide instruction to an expanded secondary school population as well as out-of-school youths and adults.

Demand for professional development services has come from the inner-city teacher and administrator, as well as those serving the sprawling urban and newly formed rural districts. The use of volunteer teachers, teacher aides and other paraprofessionals has added to the problem. Professional development programs for this group have been provided by local educational agencies with special in-service funds; vocational programs for the handicapped (physical as well as mental) have drawn assistance from special education and the vocational rehabilitation services, and in-service programs sponsored by these agencies have been invaluable.

It is clear that state departments should take leadership roles in bringing about needed change in certification laws and regulations. Many states are in the process of making certification changes, but the meeting of certification requirements is basically in the hands of the professional specialists at the university level, aided more recently by teachers' organizations that have urged the maintenance of rigid standards.

Curriculum content has been revised to include new subject matter, and university professionals tell the "story" of the dis-

advantaged and handicapped while shop teachers cry out for staff development to aid them in "what to do" and "how to do it." The technology of implementation has been missing. It is advocated that to aid the teacher, it is important that supervisors and administrators receive in-service training in this area as well. Many teachers' groups have become militant due to the frustrations of having new and exciting programs (that were on the fringe of achieving breakthrough) get only casual consideration from top administrators, and what was a promising program reverts to an approved curriculum taught by certified instructors. Programs should also include a greater variety of planned activities including travel, work experience, and a deep involvement from within the community by community people.

Nationally, the teaching profession has had a growing role and status problem, almost the identical problem that has confronted the vocational teacher for years. The college or university, as well as state departments of education professional development programs, must view this situation as a total problem, and the practice of approaching the issue from a fragmented, departmental position should be unacceptable. At the local level teachers, administrators and supervisors should work together as a team, and to facilitate this objective, they must receive "team" services in return.

The next question from the position of advocacy should be "how broad should the professional education program be?" Performance requirements for teachers and administrators of vocational programs are no less important than the requirements for others in conventional programs. At the present time there is evidence of relaxed certification requirements to accommodate the needs of professionals in acquiring the fine arts and performing arts as a means of encouraging broad preparation of vocational personnel, especially in the trade and industrial area. To this end, state departments of education have a responsibility to provide leadership in the provision of the specialized areas of vocational professional preparation, as well as in broad areas.

Competency- or performance-based instructional programs have been widely discussed. The "Model Curricula for Vocational and Technical Education" reported by Cotrell, et al (1971) identified performance requirements for various vocational fields.⁶ The prerogatives of the individual college professor have not been challenged by such a system. Performance objectives were written in terms of learning content and it would appear that there was no intention to specify the delivery system to be used. The specific objective of a student was established, and a variety of options were opened to the student to achieve those objectives.

As mentioned earlier, there is no one system or plan that has been suggested as the panacea to solve all problems. Few students, however, have been guided into, or offered opportunities in some of the areas identified as:

1. Teaching, Supervision or Administering Inner-City Programs
2. Special Emphasis Programs
 - a. Handicapped

- b. Special education (Educationally Mentally Retarded)
- c. Cooperative / Diversified vocational programs
- d. Cluster type programs
- e. Special programs for offenders
3. Internships for Administrators
4. Teacher / Employee Negotiations Skills
5. Short and Long-Range Planning Techniques
6. Adult Education
7. Staff Improvement Techniques
8. Articulated Programs (Vocational with Academic)
9. Applied Research

FACILITIES AND EQUIPMENT NEEDED FOR PROFESSIONAL DEVELOPMENT

Any assessment of professional development programs for vocational and technical educators should also take into consideration the locations where the professional education will be provided. Programs of professional growth should provide the student with the time and tools necessary to meet the objectives and conceptualize the experiences associated with these objectives, and facilities become an important factor in contributing to that growth.

Over eighty years ago the early proponents of vocational education developed and put into efficient operation programs of individualized instruction, and in-service education provided at that time became the change-agent, with its primary role one of diffusion of new ideas. The Sloyd concept of manual training was spread by the in-service professional education programs of that day. In the past several decades "educational establishments" changed much of the local emphasis by establishing quantitative standards for teaching certificates, and the setting for in-service professional education became university based, with programs structured so that college credits could be awarded. Vocational professional education became a monopoly of a select category of colleges and universities. The in-service programs as well as the pre-service programs became highly structured. Many teachers and administrators reported that they found little application to their daily problems. In the 1960's when the need for in-service professional education became urgent because of an expanded post-war population, the certification problem often received more attention than those relating to the social and economic needs of the day. While other schools in social sciences, humanities, and philosophy were involved in developing programs through open university concepts, store front classroom and other innovative approaches of meeting the needs to develop skills for work with the disadvantaged and handicapped, vocational teacher education was still

university bound. Some states moved to transfer in-service education from the dependence on the college or university to the local education agency or to an intermediate unit in an attempt to involve the teacher, supervisor, and administrator with the solution of local problems. It has been noted since then that such programs did not need to be divorced from the college or university; they became the change-agent providing the clinical or applied study needed to re-direct and re-orient the professional development program of the college or university. Since in-service training has been viewed as a strategy for improving education, facilities and equipment have likewise been seen as functional in bringing about the desired results. Facilities necessary to develop competencies in the area of curriculum content should take into consideration the variety of audio-visual equipment used and/or needed in most modern schools. Hence, should the college or university attempt to meet these needs without relevance to the programs offered locally, the professional program will fall short of its goals. The relevancy of the college setting, especially since there has been little reported change in a 10- or 20-year period, should be questioned, and planners of the professional development for vocational personnel ought to consider the relative merits of directing resources to maintain up-to-date laboratories and equipment. Maintaining facilities and resources for the professional knowledge aspect of professional development may be an area where the college or university campus should concentrate great effort. Libraries, especially, should be built around the interdisciplinary needs of the schools within the college or universities. Much of the research, both theoretical and applied aspects, has become an important aspect of the total program, and it can be facilitated with libraries having adequate interdisciplinary deposits of materials and references. A system for professional development should recognize that at all levels of education there are differentiated functional roles, and the facilities and equipment needed to prepare teachers, supervisors, or administrators to meet their individual specific objectives need to be designed to meet all objectives. Hence, reliance upon a single facility approach to the solution is not desirable. State Departments of Education should constantly explore alternatives, maintaining a position of advocate, between the local practitioner and the college or university theoretician.

EVALUATION AND ACCOUNTABILITY OF PROFESSIONAL EDUCATION

Evaluation and accountability become possible only when goals and objectives are clearly defined in relation to the educational benefits to the student. It should provide the feedback that is needed to supply valid information on which decisions can be made. Accountability, which goes hand in hand with evaluation, has become the keyword of the 70's, with society demanding more education, all of which it believes should be held accountable to the public as well as to the student. There are two aspects to accountability, and State Departments of Education, along with their college and university colleagues, should be required to provide answers to: "Have the funds been spent for the purposes intended, and what proof is there of the use made of them?" The activist demands immediate change, and is dubious of the necessity of going through the involved sequence of steps of an orderly change process. Demands are made for more vocational offerings, changes in curriculums, higher

academic standards, reorganized schools, establishment of more vocational offerings in junior or community colleges. Appropriate or not as these changes may be, they do have one theme in common; they call for action for change and basically toward the same end. Such changes, if they do not exhibit a high degree of planning or rationality have little chance of success, and if carried through are often difficult to assess in terms of productivity. Another area of assessment is that relating to planning. Organization for planning should not delay the change process. Planning should both precede and accompany the process of change, and resources should be provided for planning. Goals for desired changes are essential, with a clear sense of direction spelled out. They require a carefully developed organizational pattern that recognizes (1) creation of awareness of the need for change, and (2) establishment of specific planning mechanisms and sequences.

To determine whether all the many goals of vocational professional development have been reached, an effective evaluation process should be planned, organized and facilitated. Evaluation should be recognized and understood to be a continuous process, and it should permeate the effectiveness of the organization. Student progress as a functional segment of assessment should also receive continuing evaluation. Further, the general objectives for the implementation of instruction in the pre-service situation, as well as the in-service levels of professional personnel should be included in the criteria that should be utilized to evaluate vocational professional education programs. State vocational education agencies should press for increasing the importance of evaluating the product of the professional development program, rather than the success mastering of the process.

External pressures in recent years have forced alternative evaluation methodologies upon vocational educators. Vocational education has had to compete with other agencies and institutions for limited resources, both human and economic, on the State and local levels. Decisions regarding allocations of such resources have been made upon evidence supplied by evaluators who were concerned with program efficiency. State agencies of vocational education in the future should assist in developing, evaluating, utilizing, and interpreting measures of cost; the cost effectiveness point of view should likewise be a major concern. In addition, program effectiveness in terms of relevance to the changing social and economic conditions of the community to be served should be evaluated. Since process evaluation does not provide effectiveness or efficiency indicators, vocational policy makers should develop alternative evaluation techniques. The systems approach to evaluation that vocational educators have been more recently utilizing to evaluate local programs should be applied to evaluating the professional development programs, and in defining the problem in terms of its purposes and expected outcomes. Such a system should become part of the total education planning system of a state department of education, making it feasible to articulate the needs of vocational educators for professional education with those of their academic counterparts. Traditional forms of institutional autonomy should be displaced by the emerging patterns which tend to emphasize interdependence rather than independence of any of the educational units. Providing a heightened education accountability to the public, then, must carry with it new attitudes on the part of all concerned with the task, and particularly state educational agencies, colleges and universities, and the local schools.

FOOTNOTES

¹Richard S. Nelson, "How One State Defines Its Role and Acts to Implement It," American Vocational Journal, (Washington, D.C.: Professional Development in Vocational Education, November 1971), p. 40.

²"Business Executives Train to Become School Administrators," The School Administrator, (Washington, D.C.: American Association of School Administrators, Fall 1973), p. 18.

³Laurence D. Haskew, "Emerging Approaches in Professional Education," Teacher Education, National Seminar Proceedings, (Columbus, Ohio: 1968), p. 28.

⁴Glenn F. Powers, "Developing Quality in a Developing Institution," Phi Kappa Phi Journal, (Ann Arbor, Michigan: Fall 1973), p. 31.

⁵Carl J. Schaefer and Darrell L. Ward, "A Model for a Comprehensive State Personnel Development System in Vocational Education," a staff paper of the 1971 National Leadership Development Seminar for State Directors of Vocational Education, (Columbus, Ohio: The Center for Vocational and Technical Education).

⁶Calvin J. Cotrell et al, "Model Curricula for Vocational and Technical Education," Teaching Career Analysis, (Ohio State University: The Center for Vocational Teacher Education, October, 1970).

CAREER CLUSTERS

**Staff Professional Development:
Expansion of Clusters**

John D. Rowlett
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ABSTRACT
STAFF PROFESSIONAL DEVELOPMENT:
EXPANSION OF CLUSTERS

PROBLEM: To establish a base for examining and exploring the ways and means of preparing teachers to meet the greatly expanding areas of occupational competency needed by persons entering the labor market today.

PROPOSITION: Establish 21 areas of organized instruction with 165 different occupational specialties to cover present and future spectrum of programs appearing in our schools today.

CENTRAL THEME: Career education has been born around the central concept of clusters of occupations from elementary to post-secondary teaching responsibilities. The thesis that the K-10 levels of teaching need refinement and change is accented. The demands on the vocational education fraternity are such that a band-aid approach needs to be dropped and planning to meet occupational needs rather than institutional needs has to be stated.

ASSUMPTIONS: In preparing such a paper, certain assumptions were explored and stated:

1. Career education will continue to gain acceptability.
2. Occupational clusters will have impact on curriculum.
3. Two fronts exist in teacher education: In-service and pre-service.
4. Models will come from consortiums of institutions and business/industry.
5. Higher education will accept broader concepts in setting for learning.
6. Extension of career education to out-of-school persons will expand.
7. Career ladder concepts will work.
8. Teacher education programs and less-than-baccalaureate programs will be expanded and accented by higher education.
9. Rates of change will accelerate in higher education if modest grants are applied.

ASSESSMENT: Further investigation of the happenings in career education and vocational education set forth that:

- A. A total system of career education is emerging tying together the thrusts of vocational education with the rest of the education system.
- B. The U. S. Office of Education clusters have become acceptable in most forms and have been the challenge that fits ALL teachers at ALL levels.
- C. Close coordination between higher education, adult programming, and associate degree programming will become evident by stated examples along with the legitimacy of learning.

experiences off-campus both pre-service and in-service for all teachers.

- D. Already in existence in several states are articulated systems of content and courses from secondary to postsecondary and on to higher education with closely coupled activities leading toward full certification.
- E. Modification of certification programs has already occurred in many states to permit inclusion of specialists and trained personnel in teaching situations. This moves quickly into a "career ladder" which permits movement from one level of an occupational area up the same ladder or over to a related area of occupational competency.
- F. Expansion of less-than-baccalaureate level programs is greatly expanding in the USA and being given equal status including budgetary.
- G. Institutions would be slow to get broad changes in the United States if great "models" were established. Time and funds do not permit this luxury and modest grants with sincere commitment would serve institutions better without threatening their existence.

DEVELOPMENTAL THEORY BEHIND CLUSTERS: Career Development has emerged as a method of instruction for infusing and integrating the "experiential" methodology in all teachers daily activity. Basically, the cognitive and social interaction areas of methodology have been well inculcated in teaching for many years. Some areas of practical arts and others have been able to use the experienced-centered activities along with these. While Woody Hayes has always had cognitive and experiential methodologies, the current concept includes democracy of choice towards goals within that experienced centered practice and games.

Discipline-centered teachers have been at the mercy of textbooks and non-application. The immediacy of response has been latent in that concept and actually loses the person's interest during "delay of gratification." Re-kindling of basic immediacy of PERSONAL response must be made.

"Whole" methods have prevailed even though in ill-repute in some conservative areas. A person does not learn in a vacuum as some theorists in the scientific methods try to establish, but a person does learn in relationship to all other things in his life.

In child development theory, the structured system of schools is out of step with the development of the person. Yet, all that we teach has some meaning and need within our human response system in a civilization. Maybe individualization can grow if the system adjusts to the person rather than to the discipline.

CONDITIONS NEEDED: Any system that has been built by teeny components

without any "glue" to hold them together will fail to meet teachers' needs as they meet the modern person in their classrooms. Traditional concepts of breaking down teaching into little modules of learning without bridging them across to a goal-centered program for the person will fail. The non-vocational group is experiencing this failure of acceptance by persons opting out of their classes. The success of the practical arts and vocational teachers is the basis for the integration of various segments and components of the disciplines on a goal of employment in a certain occupation is quite evident.

To fuse this approach with higher education demands of course work and content, a model including differentiated staffing from base employment toward various degrees up to and including the Master Teacher are explored.

Postsecondary programming must be articulated with teacher preparation in the occupations. Field experience should be explored to become internship oriented, teaching while obtaining certification under the watchful eye of the master teacher. Coupled with this comes the renewal of work experience for the vocational teachers on a periodic base including academic renewal.

OTHER OPERATIONAL CONDITIONS: Several touchy areas of operation will be necessary if change of this magnitude is made:

1. Establish modest grants to institutions to make change.
2. Establish time lines for change within the grant.
3. Establish categorical controls in budget to insure performance.
4. Integrate college curriculum, provide large blocks of time to teach at this level as well as in the vocational education areas.
5. Coordinate across all the departments of the education colleges, but specifically control and provide the leadership through the vocational group on this coordination with their experience of "appliers of disciplines."
6. States and even regions will have to develop master plans to fulfill the specific teacher demands made by the ever expanding vocational curricula.
7. While motion seems to be toward performance and competency testing, the concomitant problem is the establishing and holding to standards.

PROPOSED VOCATIONAL EDUCATION CLUSTERS:

- A. Production Agriculture
- B. Agri-Business with 8 areas
- C. Sales and Market with 13 areas
- D. Distribution and Storage with 6 areas
- E. Communications and Public Service with 7 areas
- F. Nursing with 23 specific areas
- G. Dental occupations with 3 areas
- H. Other health including 13 areas
- I. Homemaking

- J. Fine Arts and Design
- K. Child Care
- L. Institutional Foods and Hospitality with 3 areas
- M. Personal Services with 2 areas
- N. Clerical occupations with 5 areas
- O. Stenographic occupations
- P. Record systems and Control with 4 areas
- Q. Graphics and Miscellaneous with 5 areas
- R. Construction with 19 areas
- S. Manufacturing with 21 areas
- T. Transportation with 11 areas
- U. Service with 17 areas

Staff Professional Development: Expansion of Clusters

by John D. Rowlett
and
R. D. Balthaser

This paper is concerned with selected elements in the professional development of teachers, particularly vocational teachers, who have roles to play in designing, implementing, evaluating, and improving career education programs. Since a model of "occupational clusters" is central to the concept of career education, it is important to examine how this system of grouping occupations may fit into the scheme of teacher education in preparing personnel for elementary, secondary, and postsecondary teaching responsibilities.

For the purposes of this paper, the following assumptions are made:

1. The concept of career education will continue to gain in acceptability at all levels of education, including higher education.
2. "Occupational clusters," as a way of grouping career fields, will have an increasing impact with regard to curriculum development, program development, and the preparation of teachers.
3. Professional development programs for career education personnel will continue to proceed on two fronts: the in-service education of those already teaching and pre-service programs for those preparing to teach.
4. New models of teacher preparation will emerge, particularly for vocational teachers. These models will include various kinds of consortia including community colleges, junior colleges, and business and industry.
5. The breadth of careers included in "occupational clusters" will promote an increasing acceptance by certifying agencies and institutions of higher education, or skills and knowledge acquired in ways and settings heretofore considered unconventional.
6. While much of the literature about career education is focused on bringing about modifications of the

curriculum at the elementary, middle school, and secondary levels, increasing attention will be given to extending this concept to out-of-school youth and adults.

7. The continuum or career ladder approach will become greater in importance, not only in program development, but in preparing teachers to function at all the various levels along the continuum.
8. Institutions of higher education will increase their commitments to career education through teacher education programs and by developing less than baccalaureate-level career-oriented programs.
9. Institutional changes will occur at an accelerated rate, particularly in higher education, if provisions may be made for modest grants to assist institutions in examining their present and projected roles in career education.

ASSESSMENT OF THE "SOCIETY" OF CAREER AND VOCATIONAL EDUCATION

1. The concept of career education will continue to gain in acceptability at all levels of education, including higher education.

Career education has caught the imagination of students, educators, and the public. The idea is not new, but it was sharpened and given great visibility at a time when the evidence from all directions pointed to a growing public disaffection with the manner in which the schools were serving the varied interests, abilities, and aspirations of the students. The students themselves demonstrated their disenchantment, at times through anti-social behavior but more frequently by dropping out of school -- a sharp and irrefutable testimony from their vantage points, that the real world outside offered more than the school. Whether or not their evaluations were correct may be debatable, but the fact remains that they did and still do continue to leave school because they see the alternative as more desirable.

The literature on career education has provided excellent analyses of the problems created in the secondary schools with curricula organized on the basis of academic, vocational, and general tracks. The academic track prepared one for college, although many who have followed it do not enter college or complete college. The vocational track has often been narrowly defined and regarded as a second prize. The general track is aimed neither at college nor a vocation.

The concept of career education, with career awareness, orientation, motivation, and exploration beginning in the lower grades and extending through the middle school, provides the secondary student with options but without a dead-end. Students electing careers that require postsecondary education also have an opportunity to develop salable skills. Those planning to enter the world of work following (or prior to) graduation pursue programs of study that will equip them

to compete in the labor market, and they will have the services of school guidance counselors and placement offices -- services at another time that were more attuned to the interests of the college bound.

Vocational education is one of the central elements in career education. To properly function, however, vocational teachers and administrators must see their roles as a crucial part of a total system and not as a kind of program that somehow is set apart from the system. Vocational education, via career education, has an opportunity to become a part of the mainstream of American education. Beginning with the Vocational Education Act of 1963 and extending through the Education Amendments of 1972, there has been unmistakable legislative intent to encourage vocational education to bring itself in focus, both in breadth and depth of programs, with the real world in which we live. Vocational educators have responded and are demonstrating their interest in career education in a variety of ways, particularly through their support of career education programs that are in operation in all of the states.

2. "Occupational clusters," as a way of grouping career fields, will have an increasing impact with regard to curriculum development, and the preparation of teachers.

The U.S. Office of Education has developed a model of fifteen "occupational clusters" as a framework for career education:

- Agri-Business and Natural Resources
- Business and Office
- Health
- Public Service
- Environment
- Communication and Media
- Hospitality and Recreation
- Manufacturing
- Marketing and Distribution
- Marine Science
- Personal Services
- Construction
- Transportation
- Consumer and Homemaking Education
- Fine Arts and Humanities

While there may be disagreement about this system of classification, whether there are too many or too few categories, what is important is the fact that this is a reasoned and rational grouping that educators may study and debate and then raise perhaps the most important question of all, "If this or a similar system of occupational clusters squares with the way individuals in our society earn their livings, how ought this influence the part of the curriculum for which I am responsible and how ought my attitudes and teaching be modified to insure that my efforts are compatible with and a part of the total career education system?"

The concept of fifteen occupational clusters should not be difficult to implement in the elementary school for no particular set has been developed with which to compete. At the high school level, however, some "vocational" subjects have been rooted in more than fifty years of history, with others added in subsequent years. The

concept of fifteen occupational clusters, then, runs on into 1) a tradition-based offering of vocational subjects, 2) state bureaus of vocational education organized into major services along these lines, and 3) teacher education institutions with departments organized along the same lines for the purpose of providing in-service and pre-service vocational teacher education programs. Thus, there is potential reinforcement from three different, but complementary, directions to maintain the status quo, or if change is to occur it should be limited and not made in vulgar haste.

Changes may be made by the development and organization of a system of programs in a manner that the affected individuals clearly see that it is superior to its predecessor, and that they will have a role in the system as well as shaping it. If the fifteen occupational clusters adequately classify categories of work, then this must be reflected, unless career education is to be an empty term, in the programs of vocational education as well as the programs that prepare teachers of vocational education.

3. Professional development programs for career education personnel will continue to proceed on two fronts: the in-service of those already teaching and pre-service programs for those preparing to teach.

Vocational education personnel are being provided with increased opportunities to observe and to participate first hand in both formal and informal in-service education programs related to career education. This is essential if they are to see their roles as central rather than appendages to career education efforts. A number of exemplary programs are in operation in the states, some funded direct from U.S.O.E. and other through state bureaus of vocational education.

In Kentucky, the two exemplary projects directly funded by U.S.O.E. since 1969 have been to Eastern Kentucky University which in each case developed a proposal in cooperation with one or more agencies. The current project is in cooperation with the Fayette County (Lexington, Kentucky) Schools and the Central Kentucky Vocational School. This means, in effect, that career education activities may be viewed, via this project, from the elementary school through high school and beyond to include a broad-based postsecondary vocational school and a regional university that not only prepares vocational teachers but also operates forty-two associate-degree career-oriented programs that in turn "ladder" with baccalaureate and graduate programs.

In-service education programs for vocational teachers (and other teachers, for that matter) within the context of this type of project takes on a meaning that is difficult to achieve otherwise. Teachers all along the continuum, from elementary school through the university, are able to grasp the significance of their efforts to the total system. Not only do in-service teachers study about career education, they observe it in action and many are direct participants in the on-going program. Specific in-service programs (with university credit) have been designed to relate to the instructional needs of the teachers involved with this project. In-service education programs for vocational teachers that seek to develop a better understanding of career education, should be related, whenever possible, to on-going career education programs that provide both breadth and depth,

and that demonstrate the roles of various kinds of educational personnel, by levels, in the career education process.

It seems inevitable (and highly desirable) that in-service education programs for those involved in career education must be free of artificial barriers that would separate and compartmentalize elementary, middle school, high school, vocational, and postsecondary vocational and technical teachers. While each group will have discrete instructional needs, and should have opportunities to prepare themselves accordingly, the greatest need is for a community of in-service educational experiences. This may present funding problems with respect to federal regulations but it must be done even if without the support of the federal dollar.

Several teacher education institutions are beginning to explore ways of modifying teacher education curricula in the interest of preparing, at the pre-service level, teachers who will be more capable of functioning within career education programs. This includes elementary teachers as well as middle school and high school teachers. An increasing number of baccalaureate level programs for vocational teachers have been developed, with several of these geared to preparing trade and industrial teachers.

Competency tests (and resultant credits) are becoming more accepted in those programs, as the technical training is in specialized fields offered by junior and community colleges. Such college based programs provide an excellent opportunity to infuse career education as a part of the pre-service program. The pre-service professional education experiences of these teachers-to-be should not be restricted to narrow vocational interests but should include the breadth that is typical of a total educational system. A vocational teacher, prepared in this type of setting, ought to be as well-versed in career education as an elementary teacher receiving similar instruction.

4. New models of teacher preparation will emerge, particularly for vocational teachers. These models will include various kinds of consortia including community colleges, seminar colleges, and business and industry.

In most land-grant colleges and universities there is a department, usually in the College of Education, that has major responsibilities for the in-service and pre-service education of vocational teachers. Specialists in trade and industrial education, home economics, business and office occupations, and agricultural education comprise the staff with some departments having greater breadth with staff representing other fields. In some states, state colleges and universities (usually former teachers colleges) also share in the preparation of vocational teachers.

It should seem obvious that this pattern of staffing is not totally adequate, if there is a goal of producing vocational teachers who are capable of working at the high school and post-high school level in the breadth of programs implied by the fifteen occupational clusters. All of these programs cannot be subsumed with the pattern of staffing and existing organization of the typical vocational teacher education department. Most of us remember in the late 1940's and 1950's the enrollment of L.P.N. instructors in courses designed

for trade and industrial teachers and how some of these nursing instructors were taught to plan and equip shops. We cannot afford to make this mistake again.

By way of illustration, how does the "public service" occupational cluster relate to the typical vocational teacher education department? To be sure, some departments have staff in this area, but most do not. What about the preparation of instructors who, within the public service cluster, have a responsibility for the pre-service and in-service training of policemen? Isn't it just as important that the trainers of policemen be as well prepared as the trainers of machinists? A poorly taught machine shop student, when he errs, is most likely to damage something material; a poorly instructed policeman, who errs, may do so in direct contact with another human being.

It seems reasonable to suggest, then, that it will be a difficult task indeed for any one vocational teacher education department to have both the breadth and depth necessary for a comprehensive program for the fifteen occupational clusters unless it is assumed that the instruction provided will be of a general nature (philosophy, curriculum, course development, methods, etc.) to be supplemented, in the "newer" speciality areas, by expertise which may be available at community colleges, other state colleges and universities, and the private sector. In fact, in some of these areas other institutions have assumed major responsibility for the preparation of such teachers. The illustration below is suggestive of such possibilities.

Eastern Kentucky University is the site of one of the nation's largest academic law enforcement programs offering associate, baccalaureate, and graduate degrees. In addition, the Bureau of Training (a state agency) is also located on campus with responsibilities for the pre-service and in-service training of police and corrections personnel. These two organizations are housed in the same facility. A person visiting this facility will observe new recruits (primarily from the smaller Kentucky communities) engaged in basic training, experienced policemen attending specialized one-week in-service programs, and both in-service and pre-service students studying in the associate, baccalaureate, and graduate programs. The facility also houses a special national project funded by the Department of Justice (Eastern is one of a seven member institution national consortium) that focuses on manpower research, curriculum development, and graduate education related to the criminal justice system.

Within the above setting, Eastern Kentucky also prepares teachers for the criminal justice system. Most accept positions in community and senior colleges although a number hold positions on the training staff of a variety of agencies. Some teach at the high school level as part of career education programs. This teacher education program is not supported by vocational funds even though many of the graduates are placed in positions that are eligible for such funds.

It seems reasonable to assume, then, in the non-traditional and newly emerging vocational fields, that strong consideration be given to identifying and utilizing institutions that may already have the basic resources and expertise for teacher preparation. These institutions may or may not have historic ties to vocational education.

It is critical that we look outside the existing system of vocational teacher preparation for new capabilities, while at the same time seeking to strengthen that which has long been institutionalized. Consortia of institutions, both public and private, and including the business sector, should be strongly encouraged.

5. The breadth of careers included in "occupational clusters" will promote an increasing acceptance, by certifying agencies and institutions of higher education, of skills and knowledge acquired in ways and settings heretofore considered unconventional.

At one time it was generally assumed that college credits could only be earned by meeting a class a specified number of times each week for a semester, completing all required work and passing examinations--all under the direction and supervision of a qualified professor. Similarly, it has been commonplace in vocational education to assume that "X" years of work experience somehow demonstrated trade competency. Increasingly (although not fast enough), institutions of higher education and state departments of vocational education are beginning to view competencies, wherever and however acquired, to be of value, and through performance and other types of examinations, are awarding credit for that which has been mastered. Academic snobbery or indifference may prevent some institutions from accepting this procedure, which is basic to the external degree approach. It is absolutely essential that competency based learning be accepted if vocational educators are to be available to staff the positions implicit in the fifteen (or some other number) occupational clusters. Logic suggests that years of service in an occupation is not enough. What is important, however, is the level of knowledge and skill development, and the quality of the educational program developed and offered by such a teacher.

6. While much of the literature about career education is focused on bringing about modification of the curriculum at the elementary, middle school and secondary levels, increasing attention will be given to extending this concept to out-of-school youth and adults.

Vocational educators have a significant contribution to make to career education programs that are directed at out-of-school youth and adults. Their experience and historical commitments to these populations must be incorporated in any plans for career education for these groups. It must be more, however, than developing and offering programs to prepare individuals for work, as important as this goal is. The individuals from these groups need opportunities to evaluate career possibilities as well as to prepare for specific employment. They need to understand that there are career ladders and that we have schools and other social institutions prepared to assist them not only with job training but also for advancement.

The professional development of vocational teachers, both in-service and pre-service, should provide ample opportunity to develop some fundamental understandings of these groups and how to work with them within the framework of career education. They should have an opportunity to see programs that have been developed which reflect this quality of understanding. And this will vary within a state and certainly between states and regions. By way of illustration, the leadership of a small community in a mountain county approached of-

ficials of a university to seek assistance in preparing nurses to serve in a new hospital well along in construction. There were thirty-one physicians in the community and twenty-nine registered nurses. One does not have to be a specialist in the delivery of health services to recognize the imbalance of manpower.

And there were people in the community who wanted to be prepared to work in the community if jobs were available. The Health Services and Mental Health Administration (not vocational education) entered into a contract with the university to underwrite the modest costs of recruiting twenty-five students per year from the area, preparing them as associate-degree nurses with the expectation that they would return to the community. The mean age of the "freshmen" recruited for this program was 23. They were not provided with stipends, although many received nursing loans and grants. They were (and still are) provided with special tutorial services; but, most of all, they were provided with an opportunity for career development and advancement. They have succeeded remarkably well and to date there has been a 100 percent placement of the graduates back in the home community.

Vocational educators must learn to be very sensitive to the kinds of opportunities as cited in the above examples. Teacher education programs must provide for contact with such programs designed for out-of-school youth and adults and these programs should be viewed within the context of the career development of individuals not just preparing them for jobs.

7. The continuum or career ladder approach will become greater in importance, not only in program development, but in preparing teachers to function at the various levels along the continuum.

The career ladder is basic to career education and it ought to be equally fundamental to vocational education as an important component of career education. Students exploring and making trial decisions about careers need to know about the progressive levels and options that are available in a given field; education programs ought to reflect this quality of reality. Nursing, as a health career, involves several distinct program levels: L.P.N. certificate, associate degree, baccalaureate degree, master's degree and doctoral degree. The career ladder may begin for some at the L.P.N. level, and for others at the associate degree or baccalaureate levels. Several institutions, through competency exams and/or advanced placement, are assisting students to move ahead, at an accelerated rate, from the L.P.N. to the associate degree, and from the associate degree to the baccalaureate. What does this mean for vocational teacher education? Both the L.P.N. and the associate degree program are supportable postsecondary programs. While provisions have been made for the preparation of L.P.N. instructors, what responsibility does vocational teacher education have for the preparation of teachers for the associate degree level? Do we simply ignore this rung on the career ladder and put our dollars into preparing teachers for more traditional fields even when the demand for teachers in some of these fields is diminishing? Qualified teachers for associate degree nursing programs are still in very short supply. If vocational education is to really be concerned about career education and the career ladder, and if vocational teacher education has a responsibility

for preparing teachers for these careers at levels provided for in the federal regulations, then it seems to follow that we must look to where the real needs are for teachers (not where they were 15 years ago), of vocational subjects that square with career opportunities in the labor market, and reallocate teacher education dollars to programs accordingly.

8. Institutions of higher education will increase their commitments to career education through teacher education programs and by developing less-than-baccalaureate level career-oriented programs.

Many colleges and universities are currently faced with declining enrollments and curtailed financing. A number of these institutions have begun to look at the possibility of developing career ladder programs that may be more in keeping with the interests of today's students. Several colleges and universities have had long-standing commitments to these kinds of programs and the typical pattern has been for these institutions to continue to grow rather than to decline. Losses in the more traditional academic fields within these institutions have been more than off-set by growth in the career-oriented fields. Institutions of higher education ought to be encouraged to broaden their base to include such programs (assuming that the need is not being adequately met elsewhere) if the institutions are sincere in giving equal status, budgetary and otherwise, to these programs.

Institutions with such a broad base (Eastern Kentucky University, for example, offers 42 associate degree programs) have an unusually fine opportunity to develop vocational teacher education programs including specialty areas where personnel are in short supply. In fact, these kinds of institutions, in cooperation with community colleges, may be the most vital resource for the preparation of such teachers. The criteria for a comprehensive vocational teacher education department may already be outmoded if in fact vocational education is to be a part of the mainstream of career education, and if these kinds of institutions are to be heavily relied upon for pre-service and in-service teacher education programs, particularly in the specialty areas.

9. Institutional changes will occur at an accelerated rate, particularly in higher education, if provisions may be made for modest grants to assist institutions in examining their present and projected roles in career education.

Vocational teacher education, with all of its strengths, is too often limited by tradition and organizational patterns and at times seems largely immune to compelling forces and trends that seem to cry out for change -- even for dramatic change. In this respect, it joins other educational fields that exhibit similar characteristics. Programs designed to prepare elementary and secondary teachers seem at times to experience similar difficulties.

As has been pointed out in another section, colleges and universities today seem more receptive than at any time in the past two decades. Colleges of education, in particular, are seeking to make adjustments due to declining enrollments. Vocational teacher education departments are often a part of these colleges. It is a most

opportune time, then for these colleges to begin to look at their current and future roles in preparing teachers, at all levels, (pre-service and in-service) to work more effectively in career education. This would involve a substantial and sustained effort. One approach might be to award multi-million dollar contracts to organizations to develop "models", over a period of years, that could be adopted by such institutions. This approach is not likely to succeed since institutions are unique and such "models" are not easily transplanted. A better approach would involve assisting those institutions with sincere commitments to career education as part of teacher education with modest grants to provide staff time and supporting services to make thorough plans for the infusion of career education in a manner that would become institutionalized. Institutional changes that occur from within, because the faculty and administration feel that such changes are right and proper, will have long-lasting impact.

An institutional reassessment of this type ought to involve teacher educators from a wide range of disciplines and levels, including vocational teacher educators, as well as elementary, middle school, secondary, and vocational teachers. The concept of career education and "occupational clusters" and how these ought to impinge on the professional developments of teachers needs to be faced squarely.

TRACING OF DEVELOPMENT THEORY

Leaning out of the current findings in the Career Development field comes a new thrust in developmental learning theory of education that is cutting across all levels and subjects. It can be named "experiential" or it can be given other identification, but it seems to be common to most of the areas of the career programming. We have had the factual learning base for 100 years in our school system. It is basic, parroting, well measured and tested, and the most known of our cognitive approaches. In addition, the mid-thirties brought us into the social-interactive or core stages with generally accepted methods of instruction and learning on an individual basis. Visible residuals of that period are the increased subject-centered clubs, student councils, social study concerns for people, and general democratic activity in most educational circles.

Experience-Centered Learning

These two areas of methodology have been supplemented in vocational education classes and the practical arts by the laboratory or shop approach and experience-centered learning. Experience-centered learning is also typified in the approach of the physical education group, driver education programs, and by the music departments in schools. As a learning tool and methodology, experience-centered learning is well based in child development theory. In presenting a principle or rule, there is teaching. It is given in short, modular-based units, followed by a greater period of application or use such as the "skull" session in sports followed by the field practice. Classroom and trainers are utilized in driver training followed by "road" experience. In the vocational education classes, the related classes present the basic theory and principles followed by the shop

or laboratory application. The "experiential" approach has proven acceptable by the increased enrollments in courses and programs due to several primary human responses.

Immediacy of Response

Discipline and subject-centered teachers have tended to stay with the cognitive and social interaction areas of methodology. Experiential methodology, when applied to all subjects and levels of instruction, will expand the learning rates and responses of persons in this basic concept of feedback to the learner. Practice in type-writing gives immediate feedback (providing the typist can spell) and illustrates an area of enjoyment and fast learning. Although the ulcer-ridden and aspirin-gulping driver education teachers bemoan their plight, their concept of "behind-the-wheel" experience cannot be superseded by trainers; insurance rate studies have born the proof of this segment. Competitive sports and music displays are parallel in experiential areas. The producing of goods and services in practical arts and vocational education courses and programs puts learning into the individual's hands. (Why couldn't this method apply for ALL teachers?)

Learning By The Whole

Although falling into ill repute in the "progressive education" era, some areas of carryover are predominantly valid. Whereas the teachers of the thirties came into the schools with flash cards and sight reading methods, the elimination of phonics created havoc in shorthand classes of the fifties when the product of this methodology tried to learn sounds -- which they had never been taught to hear or use. Remedial phonetic methodology had to be introduced in shorthand classes before sound dictation could be introduced. The problem was eliminated in succeeding years by the blending of sight -- reading and phonics. Yet, in that same sight reading methodology, business education made use of large blocks of words and "whole" structures to improve the speed of typewriting by the student.

Others using the "whole" learning methods are the aforementioned coaches, driver education teachers, and music teachers who bring to bear several senses, several disciplines and blend them into a human learning system that coordinates these. Vocational education programs of the United States, examined in detail, will show the same totality at work in blending the many disciplines that go into the performance on the job of the person at work. Vocational education is not a discipline in itself, but an application of the many disciplines that assist the person who holds the job to perform his role in society.

Childhood Stages

In child development theory, the Career Development thrust moves through the awareness stage of the K-6 levels building a base for work, the dignity of work, and the job of work and performance. The experiential theory is well applied by teachers of this level if

Career education is examined around the country. As the child moves into the 12-13 year-old levels of a structured 7-8 grade, one finds the fantasy stage at play leaving the scene. The motivation in K-6 becomes the orientation in 7-8 to start looking where work is found and at some of the areas of economic organization that provide work in this country. The 13-15 year old who moves into the 9-10th grade levels becomes the "explorer" in school, seeking many phases that apply directly to needs. As our school system moves the child from the preschool, protected, and mother-supervised environment that is well structured in experience-centered activities at home, to the elementary schools with single-teacher experience-centered activities, it would be interesting to know what goes through the child's mind when we take away the oneness of his life and throw the subject-centered, multiple-period, multiple-teacher day at him. Then we follow it up with less and less learning but more and more "teaching," more modules, more teachers, more people...and wonder why coaches, vocational teachers, music teachers, driver education teachers succeed!! Then we return him to the world of work and the single boss, eight hours per day, fifty weeks per year...and wonder why we get turned off in secondary level learning!

The "glue" that will assist the teachers in holding together their subjects and disciplines will be the area that can save our schools...not further development of "new" physics or enrichment. Career development, based around experiential methodology as applied to each of the child development levels, seems to become a "glue" that can do just that. Career development cannot solve all the problems of society and education, but the crossing of discipline lines, the involvement of students in learning as well as being taught, with vertical goal-centered curricula that career development espouses seem to be something that vocational education has been able to contribute to the educational system.

THE PROPOSITION: 21 AREAS OF ORGANIZED INSTRUCTION

Career education programs provide choice options; individuals will probably move into certain arenas with some pre-conceived ideas of what they will want to do, either directly or in ladder sequences. The K-10 levels will develop the motivation, orientation, and exploration for future career choices. The 11-12 levels will continue the preparation in the entry occupational choices or the pre-postsecondary career program indicated, assuming freedom for change is an expressed alternative to each individual. If this happens, the ladder will be working well, since each vocational program will grow out of some occupational area. Twenty-one occupational programming areas could serve as an organization device for planning.

Vocational Education Programs

The traditional organization of vocational education has been around the six main taxonomy groups of agriculture, distribution, health, home economics, office, and trade occupations. Although some areas, like the health occupations, do not lend themselves very well to the "ladder" concept; many do progress into higher levels. We will not dwell on the problems and barriers to this concept, but

recognized changes are being fostered and the past harboring of empires in occupational levels is dissolving. Over 200 recognized taxonomies are listed in the U.S. Office of Education, Handbook VI, for vocational education. Some states are actually offering 150 or more different programs, although admittedly a single school may not have much over sixty-five organized taxonomies operating at any one time due to economic conditions, placement, and student body sizes. Out of the melange of programming evolves a higher-level instructional group called technical education.

Postsecondary Education Programs

The technician-level programs delineated certain paraprofessional level occupations not previously noted before the 1958 NDEA Era. Needs were identified around national defense: but, as the further delegation of authority by employer to employee exploded, the stratification of tasks and the training necessary to perform these tasks tended to group together. Almost every occupation ladder developed a "mid-management" group, a technician, or paraprofession level. Content moved along the why-versus-how progression, but was curiously quite similar to professional content of the past. Many states have successfully stratified this into associate degree level programs of less-than-baccalaureate level...as the Vocational Education Act of 1963 specified. This "betwixt and between" program became legitimate, successful, and attractive to youth in their late teens. Its professional competency succeeded in winning degree status and lately academic credit in higher education with full transferability. In some schools it is called the "upside-down" curriculum which permits content learning of applied, practical nature and job skills to a certain level. At the same time, by the addition of the humanities and by broadening liberal arts areas, a technical graduate could proceed into a higher degree including other professional qualifications such as teaching.

Differentiated Staffing Concept

An assumption is fairly crystal at this point: the schools will be grouping together, either through consolidation or through area concepts, to offer more and more occupational programs for persons wanting these programs. Vocational programming does not hinder higher education entrance either directly or through postsecondary schools. If such schools tend to grow in size and acceptability, then the master teacher concept can be brought into action with lower-level professional teachers, and succeeding lower-level intern teachers or beginning teachers, to teaching aides. It is automatically converted to differentiated staffing, progression in pay scales, moving through the professional teacher, and eventually into the master teacher level. Linkage with the certification process can and has already been made in some states, and is quite plausible in concept when seeking the person who is skilled in certain occupations which are NOT taught in higher education, but yet may have a vocational education sequence in operation.

We explored the occupational areas a little and the occupational and vocational education programs that generate trained workers

for those jobs. (Now let's attack the problem of delineating the proposition of twenty-one different areas of preparation.)

21 Vocational Teacher Preparation Areas

Agriculture Education. The past history of production agriculture has been broken by so-called "off-farm occupations." Drawing from the skilled person, not necessarily holding a baccalaureate degree, but willing and able to follow a planned program of instruction, the present overlap of content will facilitate two thrusts:

1. Production agriculture - on-farm occupations
2. Agri-Business - off-farm occupations, agriculture related, eight levels

Distributive Education. Distribution is a none-to-clear taxonomy group, but has for years been known as "personal contact," oriented to and with people. Its functions are unique to an economic system and necessary to our economy. The major areas of definition lie in:

3. Sales and marketing occupations including thirteen specific areas
4. Distribution and storage occupations including six specific areas
5. Communications and public service occupations including seven specific areas

Health Occupations Education. Although in the past, well compartmentalized by the professions, the career ladders are starting to materialize. Without going into the professional ranks, the programs tend to group professional methods and thirty-nine specific areas:

6. Nursing occupations including twenty-three specific areas
7. Dental occupations including three specific areas
8. Other health occupations not identified including thirteen specific areas

Home Economics Education. The misnomer of "dual role" confuses this area, but close investigation of content shows two main areas of preparation, with further breakdown of the job training areas:

9. Useful - general homemaking and a "Gainful" area consisting of:
10. Fine arts and design occupations including one specific area
11. Child care occupations including one specific area

12. Institutional foods and hospitality occupations including three specific areas
13. Personal service occupations (maid, cosmetology, etc.) including two specific areas

Office Education. The business area was vocationalized primarily in the office occupations. Being originally a subject-centered area, the conversion to occupations dramatically channeled laboratories and methodologies. Their groupings tend to fall into four major areas of teacher preparation:

14. Clerical occupations including five specific areas
15. Stenographic occupations including one specific area
16. Record systems and control (accounting and data processing) including four specific areas
17. Graphics and miscellaneous - office and clerical related including five specific areas

Trade and Industrial Education. The widest range of occupations is personified in the T & I arena. On the other hand, taking a lesson from the career educator group, four major professional classifications seems to cover teacher preparation, within sixty-eight or more areas identified by related content:

18. Construction occupations including nineteen different programs
19. Manufacturing occupations including twenty-one different programs
20. Transportation occupations including eleven different programs
21. Service occupations including seventeen different programs

Supporting Propositions to Multiple Teacher Preparation Programs

It is quite clear the vocational education programs in the United States are expanding and broadening in scope. It is also clear that the past areas of single preparation curriculum for the six major classifications will not suffice for the content, methodology, and social goals of the present movement of vocational education. Specialists are needed in vocational education teacher education in the same levels as the programs being offered to students are expanding, recognizing that the great expansion of goal-centered education is ready to make possible the old cliché that we individualize instruction.

The tremendous expansion of the postsecondary programs of technical, mid-management, and paraprofessional levels has generated a totally new base of content that is manageable and acceptable in

teacher preparation. The fact that this content is offered at the postsecondary level and the fact that it has gained academic recognition across the United States permits its base to approach differentiated staffing within a total program of teacher education and yet not disenfranchise the intense desire of the student toward his goals.

At the same time, many studies have been generated to document the experience qualification in the field to be trained. It may be that the various occupational fields have different standards and substitutes for occupational experience before granting permission to teach. Due to the high level of skill needed in many occupations for which an academic program could not possibly match or afford, such as the preparation of medical doctors, adjustments matched to the occupation are in order. For instance, it may take seven years as an auto mechanic before being eligible to teach. An adjustment may be made for each year of academic higher education, but proficiency examination would be the measurable vehicle to identify the competencies needed. On the other hand, a baccalaureate degree in business education with one year of office experience may be sufficient to meet the differentiated staffing concept.

Inherent in the experience for teachers is the renewal of this experience on a periodic basis. It is foreseen that teachers will be on twelve-month contracts in the near future, with periodic times for renewal of skills both professionally and occupationally. A quarter every fourth or fifth year for work in the occupation being taught is not unreasonable nor out of the realm of commitment of the true professional teacher.

Another supporting area of personal development in humans is the present drive to remove themselves from others at young ages to establish their own economic life. Ecclesiastically, we might call this delay of gratification or the "AI syndrome" of not making the final decision on life career until experience is had in ones own economic life. Under these conditions, investigation has shown that our youth will take vocational education training during their high school time so they can become independent. It is also noted that they tend to train in the areas in which they are interested and are not unwilling to train in the areas of marketable job skills. This independence then is modified and a decision is made to either settle down to the long-range job, or to enter into further education to establish a higher or different goal, quite often while working.

In a differentiated staffing concept or master teacher role, it assumes upward progression of new teachers to higher roles in the system of teaching. In an experiential program such as vocational education, a title change from teacher to director of learning might enhance this change-over with the various coordinators, aides, and interns as indicated. The intern concept becomes quite valid in this system rather than having student teaching experiences. If "learning by doing" expresses itself in vocational education, then what is to stop teacher education programs from moving into this arena? We have used this in the preparation of higher level administrators and in various EPDA (Education Professional Development Act) projects. In a differentiated staff, the teacher may come off of any level of utilization and move right into teaching on the staff. The lower the staff level, the lower the level of utilization of prior learned skills.

and professional credit. In return, this is offset by increased levels of internship to compensate, give a base for teacher education services "on line," and provide the experiential set during the learning state of teaching while under the direct supervision of the professional and master teacher. Internships of one to five years are recognizable under this approach. We would spend time sketching out various designs to support this, but will leave this to the occupational areas of concern rather than to generalize vocational education.

TECHNICAL OPERATIONS OF EXPANSION

Several areas of technical operations are included in any change to make a comprehensive vocational education teacher education program.

Time Line For Change

Although such a change to twenty-one different areas of instruction seems drastic, such change is only drastic when made in a sweeping way or by decree. A time line for implementation should be developed which would bring forth institutional studies, state vocational education programming analysis, board of regents or higher education coordination of curriculum studies, and interfacing with the various divisions of the U. S. Office of Education and state departments of education. A model change schedule might look something like this:

First year	Establish studies
Second year	Analyze results, make recommendations
Third year	Implement plan
Fourth year	Submit and have approved the on-site campus plan (although knowing committee structure, this should be done no later than the second year to be completed by the fourth)
Fifth year	Provide services to teachers and schools

Budget Controls

Following the current higher education funding and budgeting dilemmas, it is quite obvious that vocational education is going to have to establish categorical levels of support for teacher education. By whatever future methods of support, unless these categories are spelled out, the kind of program proposed will not be supported by many universities. Since the prerogative of education is in the constitutionality of each state, it follows that budgets will probably flow through regular vocational education channels at the various state departments of education. Since the master teacher concept is proposed, this means a continuum of higher education for all teachers and the self-generation of tuition/FTE, but the services required go

beyond normal operations and should be supported by about 50 percent additional funding.

College Curriculum Integrated

As is being done in occupational education for jobs, it is about time that the subject levels be expunged from measurement, even to the elimination of the Carnegie Unit, and the competency-based design be established. Teaching then can be performed in large blocks of time instead of non-related modules at both the postsecondary level as well as the baccalaureate level. Under the present system, such programs are reported not by subjects, also by units, but experimentation has taken place on "block time" instruction over several units in some vocational education departments. Integration of learning proceeds as in regular vocational education programs for job training. Instructional methods techniques can be built right in the time block.

Location in Colleges of Education

The slow, winning trend to move content areas back to the education colleges has been going on over the years, as the basic discipline colleges have filled up the corn popper with a lot of air. Subject centered theorists have transformed a "university for all" into homophilic content as an end unto itself. With the utilization of content from many institutions, measured by competency ratings, it becomes less and less important to maintain full content programs in the education colleges, and the process caters to the internship approach. If education moves with the Froebel concepts of learning, and utilized the Dewey methods of individualization, the only freely working and logical location for vocational education teacher education programs is in the colleges of education where methodology may be cross referenced and coordinated with other professional learning activities rather than being scattered across the campus.

Master Plan

In any comprehensive system, planning must be done on broader based areas than one college or campus. A state and even a region in sparsely populated areas should establish a master plan that measures the teacher output needs in each of the taxonomies, and draws up the necessary areas as close to geographical absorption districts as possible.

In certain specialized occupations, only one institution may be identified to prepare teachers for absorption, whereas in the higher occupational job demand areas, more than one institution may be approved. It might also be found that one institution may have the best expertise in a certain occupational group and be utilized on a trade-off with others in the state or region.

The basic system calls for comprehensive offerings at fewer institutions where resources are combined and able to support full classes and at the same time be economic in combining competency learning.

Revisions Of Colleges Of Education And/Or Vocational Education Departments

Although it has already been indicated that teacher training should be located in the college of education, experiential learning systems under career education seem to be moving into position. Vocational education teacher education is experiential and should be in a position to consult in this reorganization of teacher education. In addition, the above master plan will probably point out service areas of comprehensive nature and put the various vocational education services together to function as a unit rather than separate departments or even colleges.

Performance Standards

We have alluded to the competency testing and performance-based content in teacher education. Within the various regional accrediting associations, within each state, and within each college, it becomes important to establish the standards that will be used for measurement. This is understood to be the hardest part of this proposal. We always have our own personal performance standards. But let's give you an example of acquiescing to a vicious circle and the lowering of standards. In one state, the broadening of curricular offerings in the fifties, trying to make the student "comprehensive" in the "comprehensive" school, brought about a general reduction in shorthand speed standards that is currently ridiculous. The Clerk-Stenographer III rating in 1957 required 120 wpm shorthand speed. Electing out of the courses produced less time to build speed; reduced speed performance showed up on state civil service testing. The state lowered its standards. The teachers checked, found the lowered standards, reduced their teaching standards. This circle resulted in the present day standards for the same position of about 60 wpm and resulting poorer stenographers for the state. It is important that teacher educator standards be established and maintained.

POST-SECONDARY EXPANSION

**Post-Secondary Expansion
as a Part
of Professional Development**

by Richard W. Whinfield
and
Melvin E. Johnson

ABSTRACT **POST-SECONDARY EDUCATION AS A PART OF** **PROFESSIONAL DEVELOPMENT**

Post-secondary education is tremendously diverse in its nature. It has essentially three major components:

1. Four-year colleges and universities
2. Community and technical colleges
3. Adult education

Two of these are primarily designed to create structured and pre-determined educational courses. The third, adult education, is so amorphous that it defies description. These components are virtually independent of each other, but if looked at as a unit, can provide essentially all of the other educational ingredients required by adults in our society.

There are several reasons why these components will continue to grow. First, the people of the United States have a high degree of faith and trust in education, particularly if it is perceived to help solve both social and individual problems. Second, technological changes have required increasing knowledge and skills with an expanding need for constant upgrading as well as higher level skills and entry into society's world of work. Third, increasing reliance by employing agencies has been placed on educational "credentials" as screening devices for employment. Fourth, employment practices have essentially forced persons between the ages of 16 and 24 to continue within the educational system. The result of these four forces is that continued growth of post-secondary education can be expected for some time to come.

The structure of post-secondary education, principally in colleges and universities which have established admissions standards and prescribed curriculum has greatly affected the organization and curriculum in the secondary school.

The observations lead to the following conclusions. While all the necessary elements for lifelong education are essentially operational, they have not been integrated to permit a diversity of post-secondary education programs which could provide a broader range of services to both society and the individual than the present post-secondary system. It seems desirable to begin by a radical restructuring of the total post-secondary education institutions. Some of the more obvious suggestions for change in the post-secondary system are as follows:

1. That they be integrated in a meaningful way with the primary emphasis on meeting individual needs rather than being a societal tool.
2. That curricula programs be modified to permit individuals to obtain essential skills for entering a career with continuing

opportunity to pursue adult education, including a liberal education, as the individual perceives his needs.

3. That "credentialism" be minimized so a "degree" is not the sole, or perhaps the most important goal, leading to higher and more sophisticated occupations. Instead, the educational program should be modified and the employment practices restricted so competency becomes the basis for achievement in a job and society.

4. The concept of career education may be the vehicle for achieving a higher level of integration for the post-secondary education components. It suggests a broadening and restructuring of the curriculum to meet the goal of establishing competency levels rather than degrees.

In conclusion, the above suggestions represent minimal arguments in support of restructuring post-secondary education. There are many other arguments which could be set forth. First, however, the problem must be recognized as an important problem by all facets of society, particularly educators. Recognizing there are vested interests and massive investments in the on-going post-secondary institutions suggests the monstrous difficulties of achieving the suggested changes in the very near future.

Obstructive forces must be broken down if restructuring is to occur. It is unlikely that we will have a revolutionary change, but we may have an evolutionary process that will gradually restructure the system. There are, without question, some excellent educational activities which must be protected. No revolution or evolution should damage those valuable elements. In order to influence the power structure to permit change, incremental steps must be taken. Some steps have been made. Credit by examination, inter-school compacts, and external degrees are a few of the emerging elements. These have been occurring as insightful people, concerned with individual needs, have pressed for change. If our perception is correct, the educators who have the most direct contact and greatest concern are teachers, professors, and instructors. The evolution will come because they demand change and demonstrate that there are better alternatives than our present post-secondary education system.

Post-Secondary Expansion as a Part of Professional Development

by Richard W. Whinfield
and
Melvin E. Johnson

Virtually every United States citizen, from age six throughout his entire life span, has formal educational opportunities within reach.

Most adults appear to be aware of this, since massive numbers of adults are attending classes--some continuously, others sporadically. Yet we persist in viewing elementary and secondary schools as the place to prepare all children and adolescents for "life". Perhaps as recently as fifty years ago this was a realistic viewpoint, but it need not be--should not be--true today. Life needs/societal needs are in such a state of flux that we need to view education as life-long. We shouldn't be hung up on the dropout rate; the fact is, we all drop out of education at some point. What we need, and to a large extent have, is the opportunity to "drop in" at virtually any time in our lives!

This is not to say that there aren't legitimate reasons for having elementary and secondary programs for children and adolescents. Educational programs can and do help students prepare for at least entry into productive roles in our society and to achieve a sense of personal understanding. Indeed, there are minimal skills, knowledge, and attitudes which are prerequisite to fulfilling one's individual and societal role. Communication skills is a most obvious example. However, these are just the beginning, not the culmination of an education. What occurs in the education of children and adolescents should be preparation for entry into society as a productive person, the foundation for life-long learning, and an adapting process. The very nature of our rapidly changing society literally cries out for this concept.

While the career education model recognizes this concept, vocational-technical education from its inception in 1917 has had a stronger component of continuing education. While the vocational-technical education application of life-long learning has achieved some measure of integration, the implementation of the career education model has virtually ignored the "continuous learning" aspect and, thus, a chance to integrate educational programs. It has almost exclusively focused on the elementary, middle, and high school levels...and what a shame! The very heart of the concept of "career" is that it is a continuing process!

What makes it even more sorrowful is that there are institutions and educational services already in existence which could make career education truly a life-long process. Career education might be the vehicle for putting it all together, bringing about the emergence of a life-long educational system.

The first concept that comes to mind when we refer to institutions and educational services already in existence is that of adult education. However, that is only one portion of it. We are referring to all the post-secondary educational programs, which at the moment is an amorphous conglomerate of institutions and programs.

TOWARDS A DEFINITION

The concept of life-long learning may connote adult education to many, but the concept of post-secondary education conjures up a different view. Most of us are apt to perceive post-secondary education as a formalized structure--college, university, community college, or technical college. Certainly these are important components, but they are not the only post-secondary educational opportunities of a formal nature. There is an extensive list of other formal educational opportunities. (We distinguish formal education as a planned sequence of directed learning as opposed to informal education or learning which is an integral part of living and adapting to the environment.) There is a wide range of opportunities in numerous proprietary schools, skill centers, rehabilitation centers, and correspondence schools. These are strictly educational institutions and almost exclusively post-secondary in nature. Further, consideration must be given "non-educational" institutions which have educational components. These include:

1. Business and industry
2. Churches and synagogues
3. Labor unions
4. Arts councils
5. Business and civic associations
6. Charitable organizations
7. Non-charitable foundations
8. Professional societies
9. Communications media
10. Community organizations

Essentially, we are defining post-secondary education as all formal education available to people after they "leave" the elementary and secondary schools.

CHARACTERISTICS OF POST-SECONDARY EDUCATION

The diversity of post-secondary education, as illustrated by the above listing, makes it very difficult to give a simple description of its characteristics. However, let us look at three components: (1) colleges and universities, (2) community and technical colleges, and (3) adult education.

Colleges and Universities

Probably the best known and understood component of post-secondary education is that of colleges and universities. They offer a variety of programs leading to clearly defined degrees (generally Bachelors, Masters and Ph.D.'s). They are frequently perceived as having two sub-components--liberal arts degrees or professional degrees. However, strange things are happening. Once perceived as "four-year" colleges, increasing numbers of students are taking five, six or seven years to complete a baccalaureate degree by dropping out, returning, or attending part-time. Previously most students enrolled directly from high school. Increasing numbers of older adults are now taking college courses. The mother of one of the authors, at the age of 77, recently took her first college credit course.

The growth of colleges and universities during the past several years has been startling. In 1960 there were 3,277,000 undergraduate students enrolled in colleges and universities. In 1970 there were 6,533,000 undergraduate students, which is an increase of 100.9 percent.⁴ At the moment, this growth tends to be stabilizing. The growth was 24 percent between 1965 and 1970, but is projected to be 21 percent between 1970 and 1975. This stabilization may be due to the expansion of community and technical colleges.

This is not the whole story about colleges and universities, however. Universities in particular enroll enormous numbers of people in non-credit extension classes in a very wide range of programs and fields. They also offer a wide range of educational services through a variety of administrative channels. In short, the elements of lifelong learning are present in these institutions. Unfortunately, enrollment figures for non-credit students are virtually impossible to collect or interpret.

Community and Technical Colleges

Probably the most spectacular and potentially most responsive post-secondary educational programs are those offered through the community and technical colleges. Community colleges, once called junior colleges because they offered the first two years of a baccalaureate degree program, have expanded their mission to include several sub-components, namely: (1) the first two years of a baccalaureate degree program, (2) a wide range of occupational programs for both employment training and skill upgrading, and (3) community educational services. The first two categories are more or less self-explanatory. The third, however, has multiple characteristics such as providing services to governmental agencies (upgrading police and firemen's skills and knowledge), opportunities for participation

in musical groups and dramatic groups, forums on community problems, special services for the disadvantaged and handicapped, citizenship programs for immigrants, instruction in reading and math for illiterates, high school programs for high school dropouts, and many other services.

The growth of the community colleges has been spectacular over the past 15 to 20 years. In 1961 there were 644,968 full-time students in community colleges. By 1971 there were 2,366,028 students, an increase of 267 percent. The anticipated growth between 1970 and 1975 is 26 percent.² As with colleges and universities, non-credit enrollments are virtually impossible to obtain.

Technical colleges, including area vocational-technical institutes, tend to vary in their services. Some are exclusively two-year technical programs. Others perform similarly to the community colleges, but do not include the first two years of a baccalaureate degree program. Statistics for these institutions are not clear. Some are recognized by the American Association of Community Colleges and their enrollment statistics are included in the above community college figures. Also, many are operated by local educational agencies; and the enrollments are incorporated into those of secondary education.

Adult Education

Colleges/universities and community/technical colleges may be diverse in their services, but they are quite easily defined when compared to adult education. The nature of adult education is so amorphous that it defies precise description. The most visible programs are those operated in public secondary schools. University extension programs are quite well known as are the services of the community colleges. Less visible to the general public are many of those non-educational institutions listed earlier.

In spite of this amorphous character, however, adult education is recognized as a viable social institution to help resolve a variety of social and individual problems. An example of its acceptance is the involvement of the federal government, which financially supports a variety of programs. This list includes:

1. Manpower Development and Training Act Programs
2. Neighborhood Youth Corps
3. Operation Mainstream
4. New Careers
5. Concentrated Employment Programs
6. JOBS Program
7. Work Incentive Programs
8. Adult Vocational Programs
9. Adult Basic Education

There are many more; libraries also receive federal funds.

It is estimated that 23,141,000 were enrolled in formal adult educational programs in 1969 (18.2 percent of 130,000,000 adults over 17 years of age). This does not include educational television, private industry, private institutions, or governmental agencies including the armed services.³

The problem of drawing together enrollment figures is virtually impossible to solve. Part of the problem is that adult education programs are spread among a multitude of agencies and institutions. This poses a severe difficulty in establishing comparability (how does one equate community action programs with police training?). Other problems include the failure of institutions to keep adequate records and the lack of a central agency to collect data from greatly diverse sources.

These are just a few of the difficulties which prohibit any clearly representative figures on how many students, teachers, programs, or institutions are involved in the whole concept of post-secondary education. While it is virtually impossible to give any kind of accurate reporting on these three components, the figures presented represent a spectacular growth of post-secondary education. It is probable that there are more adults enrolled in educational programs than there are youth under 19 in any given year. It can truly be said that we have a lifelong educational system in America.

It might seem that our definition of post-secondary education has been chosen to avoid dealing with the confusion of specific definitions. This may be partially correct; but it strikes us that a major reason for the confusion is that, whether or not one deals with specific programs (community colleges, four-year colleges, graduate schools, adult education), the motivations for their establishment and growth are similar. All components are responding to essentially the same forces in our society, and the amorphous quality is a reflection of the diverse societal and individual needs demanding educational programs. This, to a large extent, differs from the mission of the "public school system" generally perceived to be elementary, middle, and secondary education under compulsory school attendance laws. Such education is primarily preparatory. Post-secondary education deals with occupational training as well as with broadening and modifying one's knowledge, skills, and attitudes--or just helping people who are trying to cope with situations and changing conditions.

WHY POST-SECONDARY EDUCATION?

There is probably an educational program that tries to deal with almost any social, individual, or anticipated problem. Social problems such as civil rights, women's liberation, ecology, energy crisis, world economics, and population explosion all have educational programs devised to assist society and individuals in achieving solutions or adjusting to the problem. Similarly, personal problems--poor job skills, technological change affecting jobs, alcoholism, drug addiction, mental and sexual problems, expanded leisure time, goods and service purchases, social and emotional maladjustments, illiteracy, and hundreds of others--are being dealt with through educational programs. 97

This is not to imply that post-secondary education is solely related to social or individual problems. Other programs are developed through individual curiosity, such as increasing one's appreciation of the arts, understanding nature, pursuing interest in philosophy, religion, technology, economics, and many others. The increased standard of living as well as the availability of more leisure time has opened a whole range of educational programs. Courses in boating safety, wise use of firearms, arts and crafts, photography, skiing, and sky diving have resulted from this increased leisure time.

Still other educational programs deal with interpersonal relations, such as training in human relations, training in parent and teacher effectiveness, adapting to technological changes, and developing improved communication skills through courses in foreign languages, technical report writing, child and family living, listening, audio-visual equipment, and others. The list can go on and on! In general, programs are responsive to needs and wants of both society and individuals.

CAUSES OF GROWTH

Technology

The fact that America has experienced what seems to be a never-ending growth and expansion has been a prime contribution to this increase. We have lived as no other society has lived. We have assumed that resources would remain unlimited and that we would continue to advance technologically, economically, socially, and politically and, as problems arose, we would find appropriate solutions. Education is one device for solving problems.

The critical factor most frequently cited as seriously affecting us socially and individually is change (more specifically, the rate of change). The hero or culprit which has caused change is most frequently identified as technology. Technology is not just the development of materials and the availability of new products, but the establishment of new processes, new institutions, and new organizational procedures. Virtually every aspect of our lives has been affected in some small or large way by these changes. Each new technological development has brought with it change and the need for societal and individual adaptation. Analysis of these changes is far beyond the scope of this paper. Their causes and impacts have been discussed in such popular books as Future Shock, Greening of America, Overskill, Silent Spring, Games People Play, The Organizational Man, The Lonely Crowd, and America Incorporated, to mention only a few.

The rate of change is terribly upsetting to us as individuals. Few have escaped emotional or physiological problems in trying to deal with one or more aspects of change--we seek ways to understand, adjust, or react. We seem to be swept by a tide of change which keeps washing the sand from under our feet. One way to obtain quick understanding and adjust to change is to learn through formalized educational programs. Thus, post-secondary education continually grows.

Technological advancement is probably the greatest stimulator of growth in post-secondary education, and there are literally hundreds of examples one could use to illustrate this point. One of the most persuasive, however, is the development of the computer. Computers represent a technology which has reaped massive change in our times. The computer invades not only the credit cards most of us carry but also virtually every aspect of our lives. The combination of computers and communication systems has made possible the huge conglomerates which have changed our entire economy. It has also altered the administrative processes and authority of our governmental institutions. Computers and communication systems control mass transportation, change production patterns, and invade our educational system. The development of the computer is a major technological advancement, but what makes it unique among the new technologies is that it has made possible an even more rapid rate of change. It has also increased the probability of more technological innovations than would have been possible without it.

Technology, however, is not the only factor involved in change and the consequent expansion of post-secondary education. There are at least four other factors at work. Though these may be related to the technological forces, it can be shown that each could stand alone in causing post-secondary educational growth.

Faith

Americans throughout history have valued education. The history of post-secondary education in America can be traced to colonial days; such formal institutions as the Franklin Institute in Philadelphia and the strong apprenticeship programs of early New England are indications of this hypothesis. The Chautauquas and the Lyceum programs which pervaded the adult society in the 1800's further indicate the great interest historically held by the American people in continuing education into adult life. Of course the emergence of our massive college and university system and more recently the development of two-year institutions are illustrations of our constant faith in continuing education. Thus, a tradition of belief in the value of continuing education continues and expands today.

Credentialism

Another element related to the expansion of education beyond high school is just as significant, perhaps growing out of our faith in education. We have become a "credential society." Business, industry, and government--in fact, most agencies in our society--look toward education to do much of the "screening" of people who enter or progress in the labor market or who perform certain activities. This is done through licensing, diplomas, degrees, certificates, or academic achievement. Teachers, for example, must have a degree which includes specifically prescribed courses. As they move up the educational pay and prestige ladder, they need more degrees and more specialized courses. This is not unique to teachers; pharmacists, doctors, and accountants among others have similar requirements. Computer programmers are expected to pass certification tests; barbers, plumbers, and technicians of all types must successfully

complete prescribed academic qualifications before being licensed and employed. Probably the most basic certificate of all educational credentials is the high school diploma. Such occupations as janitor, stockboy, short-order cook and most unskilled jobs require high school graduation.

Besides these occupational requirements, there are numerous activities which require a credential. In many states one now needs a license to run a motor boat or drive a snowmobile, and universally a license is required to drive an automobile. Educational programs are increasingly available for each. Sportsmen seek the issuance of hunting licenses based on the completion of courses in gun safety. Some churches expect pre-marital courses to be completed before a couple marries. How persuasive the credential is in our society--and most of the "credentialism" is related to some type of formal education!

Labor Market

Yet another force causing the expansion of post-secondary education--but which is primarily related to youth in community colleges, colleges, and universities--is the characteristics of the labor force. Statistics clearly indicate that the highest unemployment category is the 16-to 24-year old age group. It is suspected that this results because hiring practices are affected by both management and labor. Many businesses and industries will not employ people under age 21. Thus, the alternative to unemployment is further education. This high unemployment rate among teenagers, occurring even when there are massive numbers of youth pursuing higher education, raises a frightening specter. What would it be like if half of those enrolled in school chose instead to enter the labor market? It would mean massive unemployment within this group; our labor force just could not absorb them. Therefore, just the lack of jobs causes growth in post-secondary education.

Population

The last element affecting the expansion of post-secondary education is population--commonly referred to as the population explosion. Increased numbers of people affect the growth of educational institutions. However, it is more complex than that. Along with a population increase comes a need for greater productivity, more and better communications, more transportation, and more complex governmental services and economic systems. With a growth in population there is a greater diversity of needs and wants and, thus, of social problems. Couple this with change, and the problems are bound to be more diverse and complex. The need for additional education is a natural consequence.

The interaction of all these forces is virtually impossible to analyze. It takes on the character of the chicken and the egg. All we can really observe within the framework of this discussion is that these, and undoubtedly other factors, have greatly affected the growth and expansion of post-secondary education.

In the analysis of our educational institutions, it becomes abundantly clear that the most influential institution is the four-

year college and university system. High schools develop curriculum based upon meeting entrance requirements of colleges and universities. The most influential credentials in our society are generally those that are issued by institutions of higher education. Community colleges respond to the four-year college system by placing great emphasis on their transfer program, which in effect represents the first two years of a four-year college program.

It would appear that the root of the problem in making all post-secondary education more responsive to society's changing needs is that we must first make changes in the colleges and universities. Therefore, we are addressing ourselves to what we feel are critical concerns and offer possible solutions.

SHOULD POST-SECONDARY EDUCATION CHANGE?

Realizing that the present system of post-secondary education has grown primarily as a direct result of the five factors previously discussed, there should be little question that the post-secondary system physically and operationally is inadequate to fulfill the needs of our society collectively or individually. It should also be evident that the system will continue to change--expanding at least in service to individuals. With these two factors evident, it should be recognized by educators and by the public that post-secondary education must undergo change and that future expansion cannot be modeled after the present system.

In changing the delivery of post-secondary education to better fulfill the needs of society and individuals, we must be careful not to continue the erosion or deterioration of America's value of education. The historical faith held by our society has been that education led to greater employment, to geographic mobility, and to greater social and economic benefits. This belief must be preserved by insuring that education does in fact provide these benefits. It would seem that the most efficient way to preserve the value of education would be to make it tangible and obviously valuable to the student.

CHANGES IN "FORMAL" EDUCATION

Colleges and Universities

Traditional aristocracy in colleges and university education has dictated that a specified number of areas in the arts and sciences be studied so the individual becomes well rounded or "liberal" educated. To be liberated from a narrow point of view or from a specialized study area has seemed easily justifiable within the academic community. The justification has been less obvious, if not obscure, to the student. Fortunately, the more educators try to justify the concept, the less they are able to cope with it. As the components of a liberal education are redefined, they are continually less and less restrictive. Colleges and universities are granting credit for an increasingly wider range of learning experiences. Credit by examination is no longer an oddity, but is commonplace in most institutions. A few pioneers in the field are beginning to offer credit for informal learning in areas not generally considered

college curricula. The movement in this direction is observable but must change at a much faster rate if post-secondary curriculums are to truly meet the objectives that educators have espoused for centuries. The intent here is not to condemn liberal education, but rather to allow it and make it fulfill its purpose.

Perhaps as disheartening to the student and as unproductive in the future life performance of the dropout or the graduate has been the fact that the liberating components in most college programs are required at the beginning of the educational sequence. Undoubtedly this served a useful purpose in the past in that the required beginning courses could be used as a screening device to insure limited enrollments and to guarantee that only high calibre students appeared in advanced courses. This maintained the prestige of the institution but did little for those who dropped out. This was acceptable in a philosophy which assumed that college education was for the intelligent and had little or no responsibility to the less able. We now voice a commitment to all persons but tend to hold on to the barriers of delivery.

An additional reason for requiring students to take a variety of curriculums has been to assist them in determining a field of specialization. This has been a failure because most introductory level class work has very little relevance to the career-related components of an area of study, and exploration has not been the main objective. The main purpose of the introductory course has been to prepare students for the next course in the sequence. The students participating in the classes most often feel that the instruction is of low quality; too often classes are taught by graduate students or beginning instructors in such a manner that they do not fulfill the intended educational role. The end result of this practice has served to diminish the perceived, if not the real, value in education. Hopefully, career education will eventually reduce the need for exploration at the college level.

Too often there is no tangible evidence provided to the student that, as a result of his education, he is worth more to himself or to society. Employers have realized for some time the false assumption that some post-secondary education (of any type) is better than none. The very emphasis of beginning degree programs will soon be in greater trouble as the population changes. While the total number of people is increasing, the number of high school graduates is decreasing. The birth rate decline is already beginning to put elementary and secondary schools out of business. Colleges and universities will be next unless they change.

Community and Technical Colleges

Two-year institutions have tended to design themselves in the four-year college mode. This is exemplified by the fact that many two-year institutions aspire to (and some achieve) the identities of a four-year college. Fortunately many two-year institutions are making further efforts in adapting to social and individual changing needs. The degree of their success in this attempt is at present erratic. That adaptation to change not pervading the entire two-year system is probably a result of the schools' leadership being controlled by professionals who have been indoctrinated into the traditional degree

concept by virtue of having to acquire their credentials from within the traditional educational program.

Two-year institutions may become more responsive if the traditional four-year college system should become modified as previously suggested. Until then, vigorous efforts need to be made to acquaint the leadership of the two-year institutions with alternative educational programs similar to that suggested for the four-year colleges. It must be noted that the American Association of Community and Junior Colleges has made considerable efforts to influence the two-year institutions in expanding their mission and becoming more responsive to changes within society. There is still much to be done to expand this concept to all two-year institutions.

Adult Education

Adult education is so amorphous that it is difficult to specify needed changes. Its amorphous character may be the greatest strength of adult education, since outside the framework of the traditional four-year college, it is free to respond immediately to changing societal and individual needs. Under the proposed organization of our college system, many of the adult education activities (if not most or all) could become integral parts of the college system through measures of competency. If this change becomes possible, adult education would become an integral part of our college system.

WHAT SHOULD CHANGE?

Liberal Education

The way in which this must be reconciled necessitates three major changes in our traditional structure. The first change is to eliminate forced electives within fields upon the student and let the choice of liberal education be based on student interest and ability. Some educators will undoubtedly be shaken by the thought that the students will enroll in their classes based on student interest. This is particularly threatening because interest is most often generated through communication in the student peer group. To compete for student registration in the classroom rather than to know that students will automatically be assigned is bound to affect the quality of instruction. No students usually means no jobs for professors. Some would caution that this will deteriorate the quality of education because the teachers will lower their grading standards, but easy courses are only attractive when you have to take something. If all teachers lowered their grading standards, it would have little effect on the institution or the learning process because it would only serve to matriculate more students. Teachers would be forced to address the problem of providing a meaningful experience for the less able student.

On the other hand, changing the sequence of electives to the end of a program might have a negative effect on the elective course enrollments. We might find that a surprising number of students would not participate in elective education but would rather pursue their career when they have sufficient skill and knowledge to obtain employment. However, if liberal electives were at the discretion

of the student, during and/or after the major area of study, the change in perspective by the student could, along with the improvement of the offerings, motivate students to pursue much additional elective liberal education. This assumes, however, that the institutions have applicable and available offerings. After death of knowledge and skill in an educational area, the arts, humanities, and related sciences can be put into a realistic perspective of the students' anticipated societal role such that their study becomes increasingly meaningful. They can relate it directly to their role as employer/employee, leader/follower to be accomplished after they terminate their full-time post-secondary pursuit.

Credentialism

The exact point at which the student has had sufficient electives leads to the second necessary change in the structure of present and future post-secondary education. This is the elimination of traditional credentialism. It is almost amusing (but more realistically pathetic) that, within a society having a tremendous concern for production and speed, we still have a belief that it takes four years to become something. With a little experimentation we may find that a teacher, engineer, or accountant could be produced in three years or even two. We have at the present time a swell of interest in the area of identifying student performance objectives and competency-based instruction. Relating these components to the classroom, the instructor, and the student is an excellent avenue to increase the quality and efficiency of education. The next step, and undoubtedly the more threatening, is for the institution to ask whether or not the competencies being obtained by the individuals are necessary for them to attain; are they useful, practical components of their future role in society.

Recently one of the authors was involved in an accreditation evaluation at a small specialized southern graduate school where this actually was done. A sample of graduates was asked to identify all of the competencies necessary in their employment. From a list of hundreds, a summation of 80 were identified. These 80 competencies were then rated by graduates of two, four, and six years ago. They ranked both the degree of competency necessary in their position and the level of preparation provided for these competencies in their graduate studies.

To many of the faculty the results were startling. The subjects they felt were of greatest importance had little or nothing to do with what the graduates were doing. Similarly, there were areas where the graduates felt they had no preparation and had a very high need for competency. Fortunately, the faculty is serious about meeting the needs of the graduates; and dramatic changes are taking place. We wonder how many institutions of higher education would dare to have graduates rate the relatedness of classroom preparation to employment.

Few, if any, institutions that are primarily involved in degree production have seriously taken into consideration the utilitarian value of the individual courses offered and/or required for degree attainment. There are some exceptions, however, in post-secondary education; yet those that exist have not become models to be followed.

One area of exception is the medical profession where, in the education of a doctor, the course work and internship process is directly related to the future role of the graduate. The other exception is in the field of vocational-technical education where advisory committees from the business or industry that employs the graduates are utilized to shape the curriculum content to meet the employee needs of the trade or business. It would seem logical that we should have an equal concern for philosophers, historians, artists, writers, politicians, administrative persons, and everyone else.

Replacing specified credit units leading to a degree with performance attainment, wherein the individuals learn to perform in a given purpose, will profit the individuals in their ability to obtain an economically productive place in society. Such a change will also provide psychological benefit in that they are more aware of their ability and production level. The elimination of degree junctures would necessarily begin with eliminating the high school diploma and extend through the professional degrees of higher education. Rather than degrees, individuals would receive certificates of performance or competency. Any field where the physiological welfare of the public is concerned would continue to necessitate certification or licensure by examination. Such an approach has a number of specific advantages. It would allow employers to more accurately assess the ability of the individual. As indicated earlier, the traditional credentials have been used as a screening device or selectivity device. It is becoming evident that increasing segments of business and industry no longer view the degree or diploma as an accurate measure of the individual's intellectual or manipulative ability. Government is similarly beginning to relax its degree requirements in professional positions. Unless change as we are addressing it here takes place, education (particularly higher education) will be the last to recognize the true value of education. Only in higher education itself is the degree more highly valued than the ability to perform. We dare say that anyone reading this paper can point to a much degreed individual under whose teaching he was to have benefited, but the appointed instructor attained his position by credentials rather than ability to teach or even to maintain a command of the subject matter. As long as the advanced degrees are perceived as union cards or employment passes, the quality of education may not improve.

A prime benefit of a no-degree approach would be that all individuals, after terminating their high school experience (no dropouts), could move in and out of education as needed to fulfill their vocational/avocational or personal educational goals. Entrance standards would not prevent the early leaver, who would no longer be a dropout but a person with less formal education, from pursuing a cultural or personal interest. It would also be beneficial to many professionals, such as the elementary/secondary teachers, who would prefer to broaden their knowledge of subject matter or increase their ability to teach but have been unable to do so because salary schedules and institutional pressures dictate a sequence of courses which lead to a degree.

Education and Manpower

If much of the concerns expressed in regard to the first two issues seem related to employment and the occupational aspect of

education, it was by intent. After all the philosophic arguments are over, the greatest value of education is in enabling individuals to find personal fulfillment in and through a work role, work being a broad term that includes paid and unpaid activity. The second greatest value of education is when the individual's activity contributes to the social welfare of the society in which he lives.

The third change then that must take place is to align post-secondary education programs with manpower or work needs. The Bureau of Labor Statistics has repeatedly projected that the number of college trained persons in our society would not exceed 20 percent of the employed individuals. Yet we have the institutional capacity to serve nearly 40 percent of the students who leave high school. At the same time we have not addressed the institutional capacity necessary for technical training, particularly in the lower-level skill occupations. According to the Bureau of Labor Statistics, our work force is distributed within the following groups:

<u>Occupation</u>	<u>Percentage</u>
Professional	.14
Managers	.11
Clerical	.17
Sales	.6
Craftsmen	.13
Operatives	.18
Service	.12
Farmers and	.4
Farm Workers	
Laborers (exc.	.5
Farm & Mine)	

Within these categories we also have some estimates of the educational demand of the workers, such that a hierarchy could easily be developed that would allow for a post-secondary educational structure to match the employment within a given occupational field. Just as classes are at present sequentially ordered, the curriculum would have an identifiable sequence with juncture points that relate to employment levels, not degrees. The recent over-production of teachers has brought into reality the absolute necessity for manpower planning by post-secondary educators. As the technological change of our society increases, more areas of over-production and under-production of workers are likely to occur. Many educators, in a protectionist mode, are justifying an over-production based on student request. They are saying that, because there are sufficient students to fill the classes, they should be allowed to pursue the subject area even though there will be insufficient employment upon completion of their program. This is a grossly inefficient method of economically administering educational services. With the

present competition for taxes at the federal and state levels, we are at a point in history when we cannot afford the luxury of training individuals for unemployment.

It is our belief that the two earlier changes--redefining liberal education and eliminating degrees--would assist in eliminating the problem of over-production within specific occupational areas. Without degrees, the transferability between occupations or between educational fields, when based on competency or performance, is one that would easily take place rather than the traditional mode of insisting that a student start over almost at the freshman level in order to pursue a different career.

HOW DO WE CHANGE?

The greatest need for change is obviously at the college and university level. Change in education, particularly at this level, has never been rapid; it has been evolutionary. In order to begin change, a great deal of planning and effort will be necessary. Many a protector of the status quo will use the con-out of suggesting that massive amounts of federal funds will be necessary for change to take place. We all know the likelihood of federal dollars becoming available for this purpose.

What is needed now is a redirection of the faculty within institutions. The initiative for redirection will not occur automatically. It is unlikely to come from the U. S. Office of Education, the academic community, professional organizations, or the post-secondary administration. This leaves teachers. What can they do? Three things can be done by teachers in post-secondary education to promote this evolution: (1) utilize all educational resources, both human and material; (2) stimulate commitment to individuals and their needs rather than perpetuate and promote institutions; and (3) fully establish and embrace a competency approach in education. This may only be a beginning, but begin we must.

It is interesting to conjecture whether or not the above action could be stimulated in post-secondary education if we would pursue the concept of career education at that level with the same vigor, money, and manpower as is being expended at the elementary/secondary level. In some ways it makes more sense to place the first priority for change at the post-secondary levels and second priority at the elementary/secondary level. Much of early education is concerned with student preparation for post-secondary educational institutions particularly the entrance requirements to colleges and universities. It would make the establishment of career education in the elementary/secondary schools much easier if post-secondary education would change its expectations to a career-oriented nature.

Footnotes

¹U. S. Department of Commerce, Bureau of the Census, Statistical Abstracts of the United States 1970, (Washington, D.C.: Government Printing Office, 1970), p. 126.

²The Center for Vocational and Technical Education, The Ohio State University, Community-Junior College Students Enrolled in Occupational Programs: Selected Characteristics, Experiences and Perceptions (Columbus, Ohio: The Ohio State University, 1971), p.10.

³U. S. Department of Health, Education and Welfare, U. S. Office of Education, Perspectives of Adult Education in the United States and a Projection for the Future, (Washington, D.C.: Government Printing Office, 1972), p. 9.

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